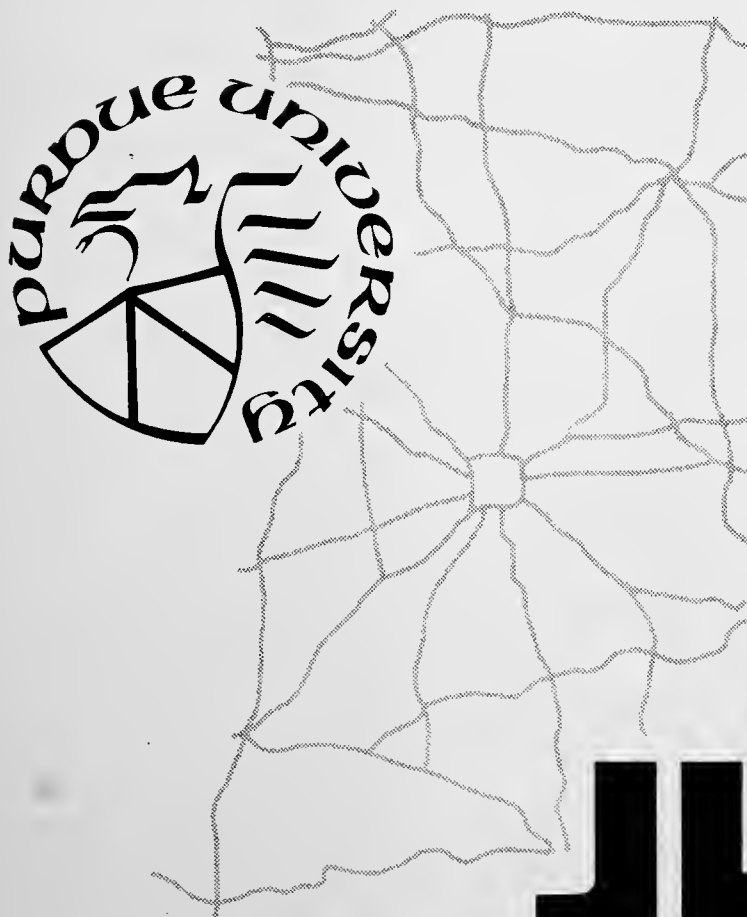


620.51  
P972e  
1970  
#21

TRAFFIC SPEED REPORT NO. 88

OCTOBER 1970 - NUMBER 21



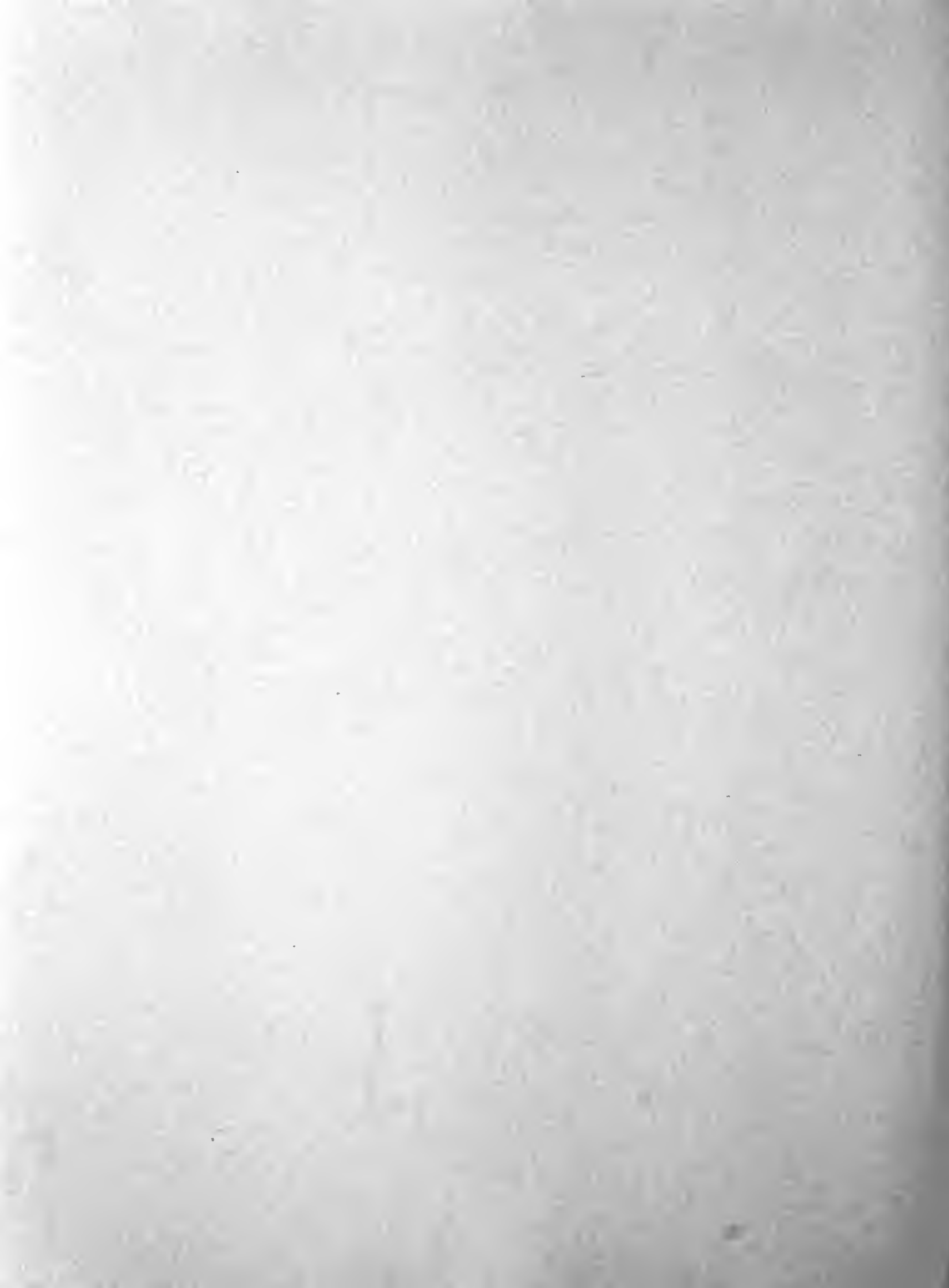
BY

S. S. HEJAL

**JHRP**

JOINT HIGHWAY RESEARCH PROJECT

PURDUE UNIVERSITY AND  
INDIANA STATE HIGHWAY COMMISSION



TRAFFIC SPEED REPORT NO. 88

TO: J. F. McLaughlin, Director  
Joint Highway Research Project

FROM: H. L. Michael, Associate Director  
Joint Highway Research Project

October 28, 1970

File: 8-3-3

Project: C-36-100

The attached Progress Report No. 88 on Traffic Speeds is the report of the 1970 study of free-flowing automobile and truck speeds on rural, tangent, level sections of Interstate, other 4-lane and 2-lane highways in Indiana. The report has been prepared by Mr. Salim S. Rejal, a Graduate Instructor in Research on our staff, under the direction of Professor Michael. The data were collected by Messrs. G. K. Stafford and Bronson Luttrell of our staff.

The results indicate a decrease of about 2.4 mph in the average speed of all passenger cars and a decrease of about 2.0 mph for all heavy trucks to those speeds noted in the 1969 study. A good probability exists that the decrease noted this year was not a real one but resulted from sample variations of the two years. A regression analysis of the speed data for the past eleven years indicated that the speed trend for all classes of vehicles on all classes of highway studied is probably an increasing one. Average speeds for passenger cars over all classes of highway have increased 1.04 mph annually and for all heavy trucks over all classes of highway the increase has been 0.88 mph annually.

Copies of this report are requested for release to the Indiana State Police, the Indiana Traffic Safety Council and the Indiana Office of Traffic Safety as is normal procedure for these reports. Copies will also be sent to the Bureau of Public Roads and several Departments within the ISHC. The report is presented for the record and for release as noted.

Respectfully submitted,

*Harold L. Michael*

Harold L. Michael  
Associate Director

HLM:ms

cc: F. L. Ashbaucher  
W. L. Dolch  
W. H. Goetz  
W. L. Grecco  
M. J. Gutzwiller  
G. K. Hallock

M. E. Hartz  
R. H. Harrell  
M. L. Hayes  
E. N. Mikhail  
R. D. Miles  
J. W. Miller

C. F. Scholer  
M. B. Scott  
W. T. Spencer  
H. R. J. Walsh  
K. B. Woods  
E. J. Yoder



Progress Report

TRAFFIC SPEED REPORT NO. 88

by

Salim S. Hejal  
Graduate Instructor

Joint Highway Research Project

File No.: 8-3-3

Project No.: C-36-10C

Purdue University  
Lafayette, Indiana  
October 28, 1970



### ABSTRACT

This report is the annual continuing study of the speeds of vehicles on rural Indiana highways. Observations of spot speeds were taken on interstate, other four lane, and two lane highways throughout the state during the months of June, July and August, 1970.

Analysis of the speeds showed the over-all average speed for passenger cars was 65.5 miles per hour. The over-all average speeds for trucks on the three types of highways was 57.5 miles per hour.

A regression analysis on the available results of the past eleven years showed an annual increase of 1.04 miles per hour for the over-all average speed of passenger cars and 0.88 miles per hour for the over-all average speed of heavy trucks.

Digitized by the Internet Archive  
in 2011 with funding from  
LYRASIS members and Sloan Foundation; Indiana Department of Transportation



## TRAFFIC SPEED REPORT NO. 88

This report is an analysis of spot speed observations made during June, July and August, 1970. All observations were made of free-flowing vehicles on level, tangent sections of rural Indiana highways during daylight and under favorable weather conditions. The same locations on selected Federal and State highways as used in 1968 were used again, except in one case. Station 9 was relocated to U. S. 35. Old station 9 on U. S. 41 was no longer representative of two lane highways because the highway is being reconstructed as a four lane divided highway. The remaining locations have been the same for many years. Stations were classified as - two lane, four lane, or interstate highways. A representative sample of traffic speeds was obtained at each of the four stations in each classification. The specific site of each station was as follows: (see Figure A)

Interstate Highways

- |         |                                          |
|---------|------------------------------------------|
| 1. I-69 | 3.3 Miles South of Junction of S. R. 18  |
| 2. I-65 | 1.0 Miles West of Junction of S. R. 334  |
| 3. I-74 | 1.0 Mile East of Junction of Post Road   |
| 4. I-65 | 2.9 Miles North of Junction of S. R. 160 |

Four Lane Highways

- |            |                                             |
|------------|---------------------------------------------|
| 5. U.S. 31 | 1.2 Miles South of Junction of S. R. 38     |
| 6. U.S. 52 | 1.0 Mile East of Junction of S. R. 28       |
| 7. U.S. 41 | 1.0 Mile North of South Junction of S. R. 2 |
| 8. U.S. 52 | 1.0 Mile West of Klondike                   |

Two Lane Highways

- |             |                                    |
|-------------|------------------------------------|
| 9. U.S. 35  | 1.5 Miles East of Junction of I-69 |
| 10. S.R. 43 | 2.0 Miles South of Chalmers        |
| 11. U.S. 31 | 3.0 Miles South of Rochester       |
| 12. S.R. 25 | 0.7 Miles West of Americus         |



The vehicles were classified as passenger cars or trucks. Passenger cars were further classified into two groups -- Indiana or Non-Indiana and the analysis was performed as thus classified and combined. The trucks were also classified into two groups - Light (less than 5000 pounds gross weight) or Heavy (equal to or more than 5000 pounds gross weight), and again the analysis was performed as classified and combined.

The maximum speed limits in Indiana are as follows: 70 miles per hour on interstate highways and 65 miles per hour on other highways, unless otherwise posted. The stated maximum speed limits were applicable at all interstate, four lane and two lane stations of this study.

#### Equipment and Field Procedure

The observations for this report were obtained by use of an "Electromatic" Radar Speed Meter, built by Automatic Signal Division, Eastman Industries, Inc., East Norwalk, Connecticut. The meter was placed approximately four feet from the edge of the pavement at an angle less than  $10^{\circ}$  with the highway center line. Speed inaccuracies are negligible at small angles (less than  $10^{\circ}$ ) and therefore, corrections for angle were unnecessary.

At the beginning of the study the accuracy of the meter was checked; a constant discrepancy of minus two miles per hour was found and hence all readings of speed were corrected accordingly.

#### Results of Analysis

The data collected were analyzed and are summarized in Tables 1 to 12 in the Appendix. Tables 13, 14, and 15 summarize the data for the three types of facilities: interstate, four lane, and two lane. Table 16 is the summary for all facilities observed.



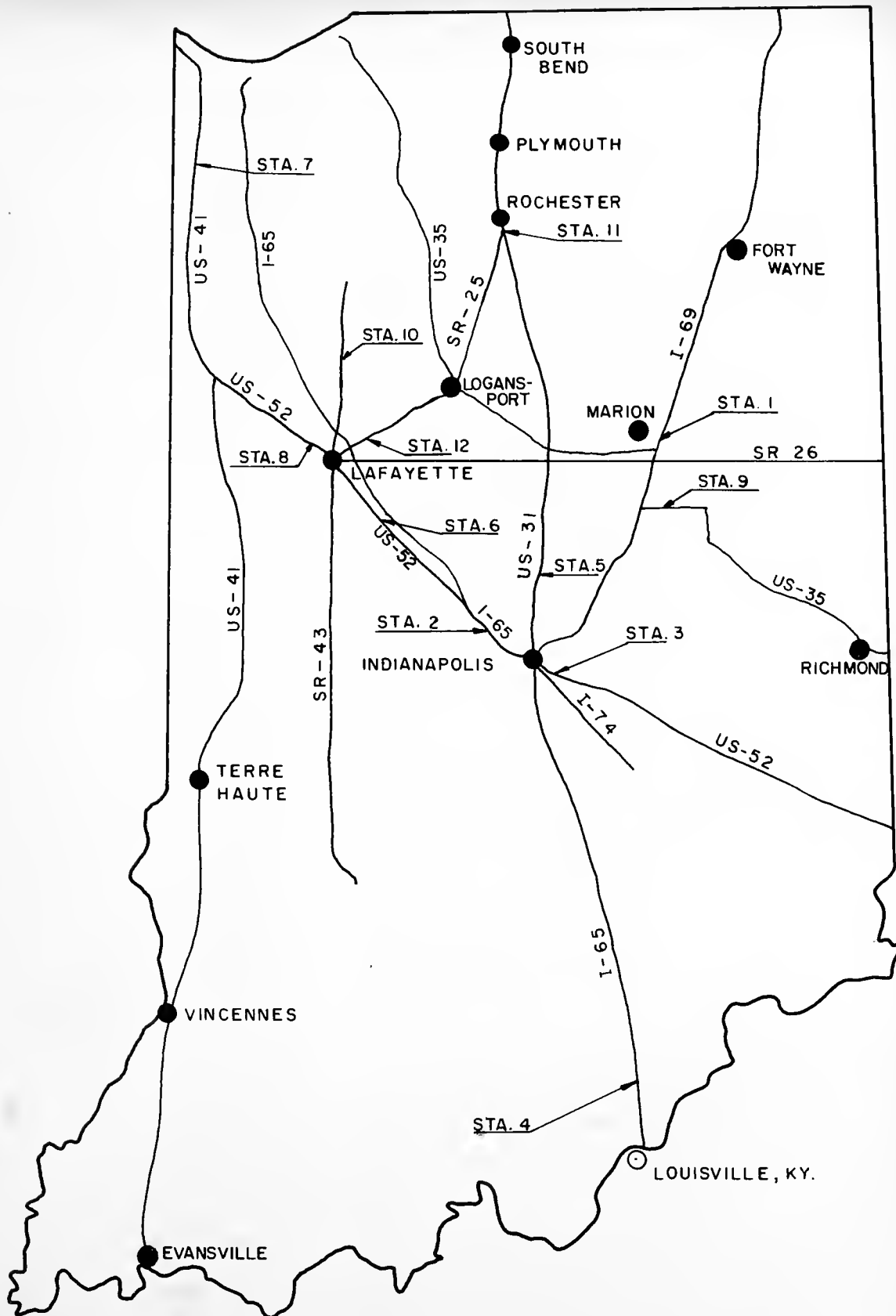


FIG. A - LOCATIONS OF SPEED-STUDY STATIONS



Figures 1 to 16 in the Appendix show the accumulative speed curves for each of the stations studied.

The average speed for each classification of vehicles on each type of highway for this study was as follows:

	<u>Interstate</u>	<u>Four Lane</u>	<u>Two Lane</u>
<u>Passenger Cars:</u>			
Indiana	69.1	64.6	62.3
Non-Indiana	69.2	64.3	62.8
85 percentile (all)	74.6	70.6	68.9
<u>Trucks:</u>			
less than 5000 lbs.	63.8	59.7	59.0
5000 lbs. or more	59.6	55.0	54.8

The percent of vehicles exceeding the speed limit for each classification of vehicle and each type of highway was as follows:

	<u>Interstate</u>	<u>Four Lane</u>	<u>Two Lane</u>
<u>Passenger Cars:</u>			
Indiana	41.2	43.7	32.2
Non-Indiana	43.0	42.3	33.6
<u>Trucks:</u>			
less than 5000 lbs	24.4	17.8	18.9
5000 lbs. or more	1.4	2.8	2.5





The percent of vehicles traveling 5 miles per hour or more above the speed limit for each case was as follows:

	<u>Interstate</u>	<u>Four Lane</u>	<u>Two Lane</u>
<u>Passenger Cars:</u>			
Indiana	14.6	18.4	12.0
Non-Indiana	11.3	16.2	13.6
<u>Trucks:</u>			
less than 5000 lbs.	4.9	5.9	13.4
5000 lbs. or more	0.3	0.0	0.0

The results of this study and similar studies conducted since 1960 are tabulated in Table A. A linear regression analysis on these results was conducted and a summary is given in Table B.

The hypothesis  $\beta = 0$ , where  $\beta$  is the slope of the linear graph of speeds versus year (annual trend), was tested and it turned out significant for all classifications at the 5% level. A second hypothesis  $\beta = 1.0$  was tested to draw limits on the annual trend. It was not significant for all the 9 cases, that is the slope is not significantly different than 1.0, mph/year for a 5% level of significance. Finally, the hypothesis  $\beta = 1.5$  was tested, it was significant for all cases except for the 85%tile of interstate passenger cars.

A graphical representation of tables A and B is given in Figure B.



TABLE A  
SUMMARY OF SPOT SPEED OBSERVATION  
ON INDIANA HIGHWAYS

(Free-Moving Vehicles on Level, Tangent Sections)

		Passenger Cars				Trucks		
		Ind. Mean	Non-Ind. Mean	All Mean	All 85%	Light Mean	Heavy Mean	All Mean
<b>Two-Lane Highways</b>								
Sept.	'60	55.7	55.6	55.6	62.0	53.0	48.1	49.1
Aug.	'61	56.2	55.7	55.9	62.2	50.4	48.9	49.3
Aug.	'62	56.7	57.5	57.0	63.7	53.1	49.3	50.1
June	'63	56.9	57.7	57.2	64.0	52.3	47.9	49.7
July	'64	59.1	60.1	59.5	66.6	53.9	51.7	52.4
Sept.	'65	58.2	57.9	58.1	64.6	54.3	50.6	51.7
Sept.	'66	60.1	59.5	59.9	65.5	55.4	50.8	52.0
Aug.	'67	61.0	61.9	61.3	68.0	53.8	51.9	52.7
June	'68	61.2	62.4	61.5	68.1	54.4	54.2	54.3
July	'69	64.7	64.6	64.7	71.9	60.5	55.9	57.9
July	'70	62.3	62.8	62.3	68.9	59.0	54.8	56.7
<b>Four-Lane Highways</b>								
Sept.	'60	59.5	60.2	59.7	65.8	54.8	51.3	52.0
Aug.	'61	57.6	57.6	57.6	63.5	53.6	50.3	51.0
Aug.	'62	59.2	59.3	59.2	65.8	54.7	51.3	51.9
June	'63	60.4	60.6	60.5	66.3	55.0	48.6	51.3
July	'64	61.4	63.0	62.0	69.4	55.1	54.5	54.7
Sept.	'65	60.1	62.2	61.0	67.2	55.5	53.1	53.7
Sept.	'66	63.1	64.3	63.5	69.0	58.7	52.8	54.2
Aug.	'67	64.3	65.7	65.0	70.3	57.0	54.0	54.9
June	'68	64.2	66.2	64.9	70.4	58.4	55.4	56.2
July	'69	67.7	68.3	67.9	74.6	64.0	58.0	59.6
July	'70	64.6	64.3	64.5	70.6	59.7	55.0	54.2
<b>Interstate Highways</b>								
Aug.	'61*	56.7	56.9	58.2	64.0	55.9	51.5	52.4
Aug.	'62	58.7	59.1	58.8	65.6	55.8	52.7	53.2
June	'63	59.7	61.2	60.3	66.3	55.2	51.5	52.7
July	'64	61.9	64.0	62.7	70.5	56.8	54.6	55.2
Sept.	'65	61.2	62.1	61.5	67.7	54.9	53.6	53.9
Sept.	'66	62.1	63.3	62.5	68.5	56.1	54.9	55.3
Aug.	'67	66.4	68.3	67.1	73.6	60.0	56.9	57.5
June	'68	66.2	67.9	66.8	72.4	60.5	57.9	58.5
July	'69	70.2	71.2	70.6	76.6	65.3	59.9	61.4
July	'70	69.1	69.2	69.2	74.6	63.8	59.6	60.5
<b>All Highways</b>								
Sept.	'60	57.3	57.6	57.4	63.7	53.7	49.4	50.2
Aug.	'61	56.9	56.7	57.3	63.4	53.1	50.3	51.0
Aug.	'62	58.2	58.7	58.4	65.1	54.5	51.2	51.8
June	'63	59.0	59.9	59.3	65.2	54.1	49.5	51.2
July	'64	60.8	62.4	61.5	69.2	55.2	53.7	54.1
Sept.	'65	59.9	60.9	60.3	66.7	54.9	52.6	53.1
Sept.	'66	61.8	62.4	62.0	68.0	56.7	52.7	53.8
Aug.	'67	63.9	65.8	64.5	71.4	56.3	54.6	55.1
June	'68	63.8	66.0	64.5	70.8	57.2	56.2	56.5
July	'69	67.3	68.8	67.9	75.1	62.7	57.9	59.5
July	'70	65.1	66.3	65.5	72.2	60.3	56.4	57.5

\*Data was only for three stations on Interstate Highways



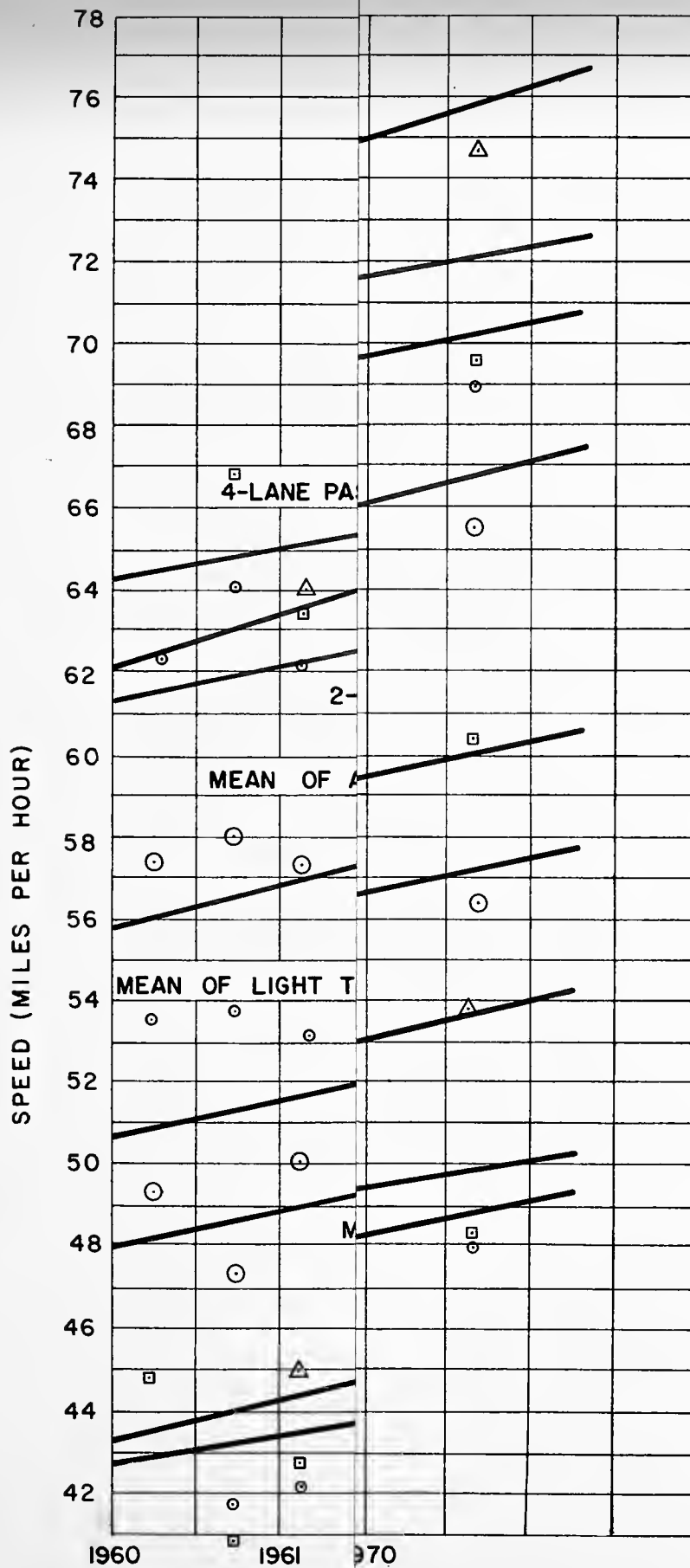
TABLE B. SUMMARY OF LINEAR REGRESSION ANALYSIS

Classification	No. of Observ.	$b_0$	$b_1$	$R^2$	$S_{b1}$	Hypothesis Testing		
						$\beta = 0.0$	$\beta = 1.0$	$\beta = 1.5$
Interstate Passenger Cars 85%	10	-14.57	1.291	.858	.186	S*	NS**	NS**
4 Lanes Passenger Cars 85%	11	21.14	.727	.679	.167	S*	NS**	S*
2 Lanes Passenger Cars 85%	11	11.22	.843	.845	.120	S*	NS**	S*
Mean of All Passenger Cars	11	- 6.05	1.042	.921	.102	S*	NS**	S*
Mean of All Light Trucks	11	0.30	.858	.824	.132	S*	NS**	S*
Mean of All Heavy Trucks	11	- 4.07	.878	.876	.110	S*	NS**	S*
Interstate Heavy Trucks 15%	10	-14.57	.973	.903	.113	S*	NS**	S*
4 Lanes Heavy Trucks 15%	11	2.86	.669	.709	.143	S*	S*	S*
2 Lanes Heavy Trucks 15%	11	-10.75	.852	.848	.120	S*	NS**	S*

S\* Significant @ 5% Level of Significance

NS\*\* Not Significant @ 5% Level of Significance









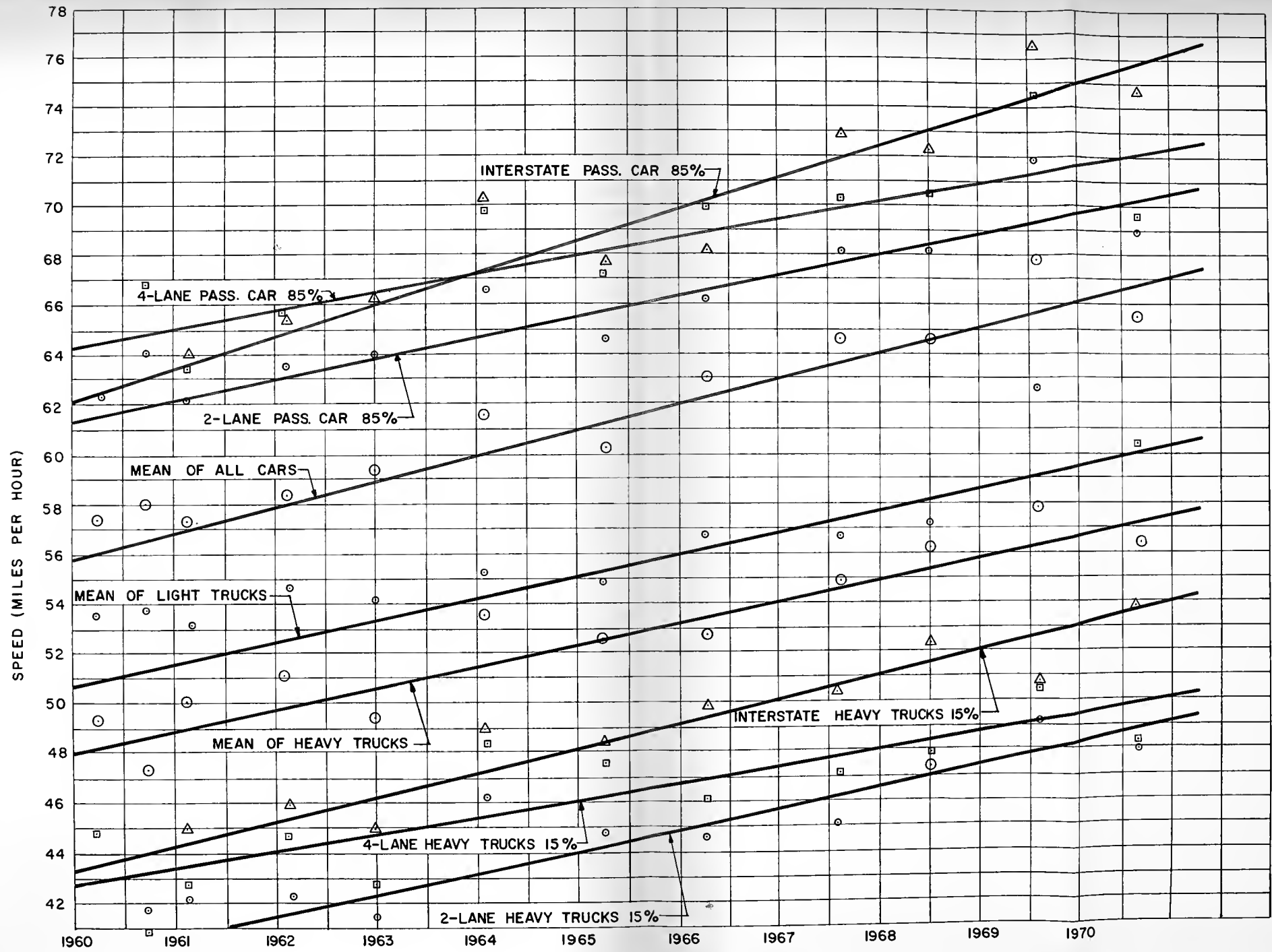


FIG. B - INDIANA RURAL SPEED TRENDS 1960-1970



### Summary and Conclusions

The average speeds in this study were found to be 2.4 and 1.5 miles per hour slower for passenger cars and heavy trucks respectively than the results of the previous year.

The linear regression on the results of the past eleven years proved:

1. There has been a definite increase in speed for all vehicles and highway classifications studied. The slopes of the linear graphs were significantly different from zero for the nine different speed characteristics tested such as 85 percentiles, average speeds, and 15 percentiles for passenger cars, light trucks and heavy trucks on the three classes of highway.
2. The slopes of the linear graphs indicate the annual trends in speeds for the past decade. These trends are not significantly different from a rate of increase of one mile per hour per year.
3. The 85 percentile of passenger cars on the Interstate System was the only speed statistic not to be significant from an annual rate of increase of 1.5 miles per hour.

The increase in the mileage of high type facility highways such as the Interstate System in Indiana and the growing percentage of automobiles violating current maximum speed limits tend to support the fact that drivers select the travel speeds they consider safe irrespective of maximum speed limits.



## APPENDIX



### Determination of Sample Size

It was desired that a 95% confidence interval of the true mean of the speeds of passenger cars should not be wider than two miles per hour. For trucks weighing 5,000 lbs. or more a 95% confidence interval with a four mile per hour band was desired.

Assuming a normal distribution of speeds and using the standard deviation of the grouped data of the 1969 study, the minimum sample size requirements was determined by:

$$N = \left[ \frac{2t S}{L} \right]^2$$

N = sample size required

t = tabulated "t" value for 5/2 significance

S = estimated standard deviation

L = width of the interval

For passenger cars:

$$N = \left[ \frac{2 \times 1.96 \times 8.0}{2} \right]^2 = 246 \text{ observations}$$

For trucks:

$$N = \left[ \frac{2 \times 1.96 \times 7.0}{4} \right]^2 = 47 \text{ observations}$$

#### Note

At all but one station more than 251 passenger car observations and 54 heavy truck observations were obtained for the study reported herein.





TABLE 1 SPEED DATA

Station 1 Highway I-69 Location 3.3 Miles South of S.R. 18 Weather Sunny  
 No. of Lanes 4 Type of Surface Portland Cement Concrete Last Previous Observation (Speed Report No. 87)  
 Date August 6, 1970 Date August 13, 1969  
 Time 10:25 - 12:20 p.m. Time 11:40 - 2:15 p.m.

				PASSENGER CARS						TRUCKS					
				All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
				Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
OBSERVATION															
All vehicles at or less than	No. of vehicles obs.			248	256	147	180	101	76	84	88	20	21	64	67
	Average speed (m.p.h.)			71.90	68.25	71.3	68.51	72.8	67.63	61.24	60.68	66.3	64.43	59.7	59.51
	Standard deviation			7.01	6.373	6.77	6.707	7.27	5.494	6.96	6.223	7.08	5.996	6.16	5.855
	24 m.p.h.			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.			0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.14	0.0	0.0	0.0	1.49
	44 m.p.h.			0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.14	0.0	0.0	0.0	1.49
	49 m.p.h.			0.0	0.0	0.0	0.0	0.0	0.0	3.6	2.27	0.0	0.0	4.7	2.99
	54 m.p.h.			0.8	1.56	0.0	1.11	2.0	2.63	15.5	18.18	5.0	9.52	18.8	20.90
Bound	No. of vehicles obs.			127	128	77	93	50	35	43	43	9	12	34	31
	Average speed			73.2	69.42	72.7	69.80	73.9	68.43	61.8	63.28	64.0	65.00	61.2	62.61
	No. of vehicles obs.			121	128	70	87	51	41	41	45	11	9	30	36
	Average speed			70.6	67.08	69.8	67.14	71.8	66.95	60.7	58.20	68.2	63.67	57.93	56.83



TABLE 2 SPEED DATA

Station 2 Highway I-65 Location 1.0 Mile West of S.R. 334  
 No. of Lanes 4 Type of Surface Portland Cement Concrete Weather Fair  
 This Observation Last Previous Observation (Speed Report No. 87)  
 Date July 17, 1970 Date August 8, 1969  
 Time 11:10 - 1:05 p.m. Time 2:25 - 4:00 p.m.

PASSENGER CARS										TRUCKS					
OBSERVATION	All			Indiana		Non-Indiana				All		Less than 5000 pounds		5000 pounds or more	
	Last	Present		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.	315	317		210	197	105	120	86	89	26	18	60	71		
Average speed (m.p.h.)	70.32	69.0		70.1	68.97	70.7	69.06	61.2	60.18	66.0	62.39	59.2	59.62		
Standard deviation	6.89	6.844		7.14	7.275	6.36	6.099	8.93	6.631	9.45	9.900	7.93	5.468		
24 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
29 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
34 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
39 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	1.12	0.0	5.56	0.0	0.0		
44 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	3.5	1.12	3.8	5.56	3.3	0.0		
49 m.p.h.	0.0	0.32		0.0	0.0	0.0	0.83	10.5	4.49	3.8	11.11	13.3	2.82		
54 m.p.h.	0.6	2.21		0.5	2.03	1.0	2.50	24.4	17.98	11.5	16.67	30.0	18.31		
59 m.p.h.	7.9	8.52		8.1	9.64	7.6	6.67	39.5	42.70	23.1	27.78	46.7	46.48		
64 m.p.h.	18.1	22.71		19.5	25.89	15.2	17.50	62.8	74.16	42.3	50.0	71.7	80.28		
69 m.p.h.	41.3	51.74		41.9	51.78	40.0	51.67	81.4	94.38	53.8	77.78	93.3	98.59		
74 m.p.h.	73.0	82.33		74.3	81.22	70.5	84.17	93.0	97.75	76.9	94.44	100	98.59		
79 m.p.h.	93.6	94.01		94.3	92.89	92.4	95.83	98.8	98.88	96.2	94.44	100	100.0		
84 m.p.h.	97.1	98.11		96.7	96.95	98.1	100.0	98.8	100.0	96.2	100.0	100	100.0		
89 m.p.h.	99.0	99.37		98.6	98.98	100	100.0	100	100.0	100	100.0	100	100.0		
No. of vehicles obs.	159	158		114	92	45	66	33	41	7	6	26	35		
Average speed	69.6	68.42		69.3	68.05	70.4	68.92	58.4	58.90	67.6	62.50	56.0	58.29		
No. of vehicles obs.	156	159		96	105	60	54	53	48	19	12	34	36		
Average speed	71.1	69.58		71.1	69.77	71.0	69.22	62.96	61.27	65.4	62.33	61.6	60.92		



TABLE 3 SPEED DATA

Station 3 Highway I-74 Location 1.0 Mile East of Post Road

No. of Lanes 4 Type of Surface Portland Cement Concrete Weather Cloudy

This Observation Last Previous Observation (Speed Report No. 87)

Date August 7, 1970 Date August 15, 1969

Time 9:45 - 11:35 a.m. Time 9:50 - 12:00 p.m.

PASSENGER CARS										TRUCKS					
OBSERVATION	All			Indiana		Non-Indiana				All		Less than 5000 pounds		5000 pounds or more	
	Last	Present		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.	264	276		144	186	120	90	77	103	24	24	53	79		
Average speed (m.p.h.)	70.19	68.65		69.6	68.47	70.8	69.02	61.60	61.03	64.6	65.29	60.2	59.73		
Standard deviation	7.41	6.728		7.96	6.945	6.65	6.275	7.19	7.092	7.44	8.844	6.71	5.952		
24 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
29 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
34 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
39 m.p.h.	0.0	.36		0.0	.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
44 m.p.h.	0.4	.36		0.7	.54	0.0	0.0	0.0	.97	0.0	0.0	0.0	1.27		
49 m.p.h.	1.5	.72		2.1	1.08	0.8	0.0	3.9	6.80	4.2	8.33	3.8	6.33		
54 m.p.h.	3.4	3.26		4.9	3.23	1.7	3.33	16.9	15.53	8.3	12.50	20.8	16.46		
59 m.p.h.	5.7	7.61		6.2	8.06	5.0	6.67	36.4	39.81	20.8	25.00	43.4	44.30		
64 m.p.h.	18.6	22.83		20.1	24.19	16.7	20.00	66.2	70.87	45.8	41.67	75.5	79.75		
69 m.p.h.	46.6	52.90		51.4	54.30	40.8	50.00	87.0	89.32	75.0	58.33	92.4	98.73		
74 m.p.h.	70.8	84.42		73.6	84.95	67.5	83.33	96.1	97.09	91.7	87.50	98.1	100.00		
79 m.p.h.	93.2	95.65		93.1	96.24	93.3	94.44	100	99.03	100	95.83	100	100.00		
84 m.p.h.	98.1	99.28		97.2	98.92	99.2	100.0	100	100.0	100	100.0	100	100.0		
89 m.p.h.	98.9	99.64		97.9	99.46	100	100.0	100	100.0	100	100.0	100	100.0		
No. of vehicles obs.	131	135		74	101	57	34	43	51	13	13	30	38		
Average speed	69.2	69.13		69.4	69.27	69.0	68.74	62.5	60.73	66.7	65.00	60.7	59.26		
No. of vehicles obs.	133	141		70	85	63	56	34	52	11	11	23	41		
Average speed	71.1	68.19		69.9	67.53	72.5	69.20	60.41	61.33	62.1	65.64	59.6	60.17		



TABLE 4 SPEED DATA

Station 4 Highway I-65 Location 7.5 Miles North of S. R. 160

No. of Lanes 4 Type of Surface Portland Cement Concrete Weather Sunny

This Observation Last Previous Observation (Speed Report No. 87)

Date August 4, 1970 Date August 14, 1970

Time 11:25 - 2:55 p.m. Time 1:15 - 2:30 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles at or less than 24 m.p.h.	No. of vehicles obs.	283	289	114	131	169	158	104	108	26	19	78	89
	Average speed (m.p.h.)	70.25	70.62	69.6	71.13	70.7	70.19	61.38	60.05	64.6	62.74	60.3	59.47
	Standard deviation	6.91	6.624	7.28	7.049	6.63	6.242	7.96	6.081	8.34	7.716	7.57	5.558
	24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	44 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	1.9	.93	0.0	0.0	2.6	1.12
	49 m.p.h.	0.4	.69	0.9	0.0	0.0	1.27	7.7	2.78	3.8	0.0	9.0	3.37
	54 m.p.h.	1.4	1.04	1.8	.76	1.2	1.27	18.3	18.52	3.8	10.53	23.1	20.22
Bound	59 m.p.h.	7.1	5.19	7.9	6.87	6.5	3.80	34.6	45.37	26.9	42.11	37.2	46.07
	64 m.p.h.	18.0	14.88	20.2	15.27	16.6	14.56	66.4	75.93	57.7	57.89	69.2	79.78
	69 m.p.h.	44.2	41.18	50.0	36.64	40.2	44.94	86.5	93.52	73.1	73.68	91.0	97.75
	74 m.p.h.	73.1	77.51	75.4	73.28	71.6	81.01	95.2	99.07	88.5	94.74	97.4	100.0
	79 m.p.h.	92.2	91.35	91.2	90.08	92.9	92.41	98.1	100.0	92.3	100.0	100	100.0
	84 m.p.h.	97.9	97.92	97.4	96.95	98.2	98.73	100	100.0	100	100.0	100	100.0
	89 m.p.h.	98.9	98.96	99.1	97.71	98.8	100.0	100	100.0	100	100.0	100	100.0
	No. of vehicles obs.	141	144	62	55	79	89	61	54	13	9	48	45
	Average speed	70.5	69.78	70.1	70.60	70.9	69.28	62.1	59.41	65.8	61.22	61.1	59.04
	No. of vehicles obs.	142	145	52	76	90	69	43	54	13	10	30	44
	Average speed	70.0	71.44	69.1	71.51	70.5	71.36	60.4	60.69	63.5	64.10	59.0	59.91





TABLE 5 SPEED DATA

Station 5 Highway U. S. 31 Location 1.2 Miles South of S. R. 38

No. of Lanes 4 Type of Surface Asphalt Concrete Weather Hazy

This Observation July 28, 1970 Last Previous Observation (Speed Report No. 87)

Date July 28, 1969

Time 10:00 - 12:20 p.m. Time 12:35 - 5:15 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles at or less than	No. of vehicles obs.	289	294	243	246	46	48	109	108	42	43	67	65
	Average speed (m.p.h.)	69.21	65.40	69.2	65.64	69.2	64.15	61.52	57.79	65.9	59.98	58.8	56.34
	Standard deviation	7.13	7.444	7.35	7.575	5.92	6.665	8.15	8.214	8.74	9.819	6.43	6.648
	24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.93	0.0	2.33	0.0	0.0
	39 m.p.h.	0.0	.68	0.0	.81	0.0	0.0	0.0	2.78	0.0	2.33	0.0	3.08
	44 m.p.h.	0.0	1.02	0.0	1.22	0.0	0.0	0.9	8.33	0.0	11.63	1.5	6.15
	49 m.p.h.	0.4	2.04	0.4	2.03	0.0	2.08	5.5	13.89	4.8	11.63	6.0	15.38
	54 m.p.h.	2.1	5.44	2.5	5.28	0.0	6.25	18.4	28.70	9.5	18.60	23.9	35.38
Bound	59 m.p.h.	10.4	17.35	12.4	16.26	0.0	22.92	45.0	53.70	21.4	46.51	59.7	58.46
	64 m.p.h.	22.2	43.20	23.0	42.68	17.4	45.83	62.4	85.19	45.2	69.77	73.1	95.38
	69 m.p.h.	52.2	73.47	50.6	72.76	60.9	77.08	83.5	95.37	64.3	88.37	95.5	100.0
	74 m.p.h.	78.6	89.80	77.4	88.62	84.8	95.83	92.7	98.15	83.3	95.35	98.5	100.0
	79 m.p.h.	92.7	97.28	93.0	97.15	91.3	97.92	98.2	99.07	95.2	97.67	100	100.0
	84 m.p.h.	98.3	99.32	97.9	99.19	100	100.0	99.1	100.0	97.6	100.0	100	100.0
	89 m.p.h.	100	100.0	100	100.0	100	100.0	100	100.0	100	100.0	100	100.0
	No. of vehicles obs.	151	148	127	123	24	25	68	54	29	14	39	40
	Average speed	70.3	65.84	70.5	66.02	69.5	64.92	62.9	59.69	65.7	63.86	60.9	58.22
	No. of vehicles obs.	138	146	116	123	22	23	41	54	13	29	28	25
	Average speed	68.0	64.95	67.9	65.26	68.8	63.30	59.2	55.89	66.5	58.10	55.8	53.32



9

Station	6	Highway	U.S. 52	Location	1.0 Mile East of S.R. 28
No. of Lanes	4	Type of Surface	Asphaltic Concrete	Weather	Partly Cloudy
This Observation	Date	July 14, 1970	Last Previous Observation	(Speed Report No. 87)	
Date	Time	8:53 - 11:10 a.m.	Date	July 31, 1969	
Time			Time	9:45 - 12:30 p.m.	

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles at or less than	No. of vehicles obs.	251	257	124	152	127	105	137	141	35	32	102	109
	Average speed (m.p.h.)	70.20	65.66	70.6	65.52	69.8	65.86	61.19	57.79	64.8	62.81	59.9	56.32
	Standard deviation	6.33	6.214	6.49	6.559	6.16	5.702	6.44	5.894	6.85	4.504	5.83	5.436
	- 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	1.0	0.0
	44 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.7	.71	0.0	0.0	1.0	.92
	49 m.p.h.	0.4	1.56	0.0	1.97	0.8	.95	2.9	7.80	2.9	0.0	2.9	10.09
	54 m.p.h.	1.2	4.28	0.0	5.26	2.4	2.86	15.3	31.21	14.3	3.13	15.7	39.45
Bound	59 m.p.h.	5.6	13.23	5.6	15.79	5.5	9.52	38.7	59.57	22.9	18.75	44.1	71.56
	64 m.p.h.	14.3	40.08	14.5	42.11	14.2	37.14	66.4	85.82	31.4	68.75	78.4	90.83
	69 m.p.h.	43.0	74.32	44.4	73.03	41.7	76.19	92.7	97.87	77.1	90.63	98.0	100.0
	74 m.p.h.	78.9	93.77	75.0	92.76	82.7	95.24	98.5	100.0	94.3	100.0	100	100.0
	79 m.p.h.	92.8	97.67	91.1	96.71	94.5	99.05	100	100.0	100	100.0	100	100.0
	84 m.p.h.	98.8	99.61	97.6	100.0	100	99.05	100	100.0	100	100.0	100	100.0
	89 m.p.h.	100	100.0	100	100.0	100	100.0	100	100.0	100	100.0	100	100.0
	No. of vehicles obs.	123	127	62	78	61	49	75	70	25	18	50	52
	Average speed	71.2	65.69	71.4	65.29	71.0	66.31	63.4	58.11	65.8	62.83	62.2	56.48
	No. of vehicles obs.	128	130	62	74	66	56	62	71	10	14	52	57
Average speed	69.2	65.63	69.9	65.76	68.6	65.46	58.6	57.48	62.5	62.79	57.8	56.18	



TABLE 7 SPEED DATA

Station 7 Highway U.S. 41 Location 1.0 Mile North of S.R. 2  
 No. of Lanes 4 Type of Surface Portland Cement Concrete Weather Clear  
 This Observation Last Previous Observation (Speed Report No. 87)  
 Date July 22, 1970 Date August 6, 1969  
 Time 10:05 - 1:40 p.m. Time 10:45 - 2:15 p.m.

PASSENGER CARS										TRUCKS					
OBSERVATION	All			Indiana		Non-Indiana				All		Less than 5000 pounds		5000 pounds or more	
	Last	Present		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.	254	254		136	143	118	111	129	128	26	29	103	99		
Average speed (m.p.h.)	66.95	63.51		65.9	63.76	68.2	63.18	56.04	53.84	61.2	58.59	54.7	52.45		
Standard deviation	8.16	7.260		8.14	7.523	8.04	6.927	7.92	7.095	8.99	8.175	7.09	6.127		
24 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
29 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
34 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
39 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	2.3	1.56	0.0	0.0	2.9	2.02		
44 m.p.h.	1.6	.39		0.7	0.0	2.5	.90	7.0	8.59	3.8	6.90	7.8	9.09		
49 m.p.h.	3.2	2.76		2.2	2.80	4.2	2.70	17.8	28.91	11.5	17.24	19.4	32.32		
54 m.p.h.	7.1	10.63		8.8	9.09	5.1	12.61	38.8	55.47	19.2	27.59	43.7	63.64		
59 m.p.h.	15.0	25.59		19.1	25.17	10.2	26.13	69.8	77.34	38.5	48.28	77.7	85.86		
64 m.p.h.	33.1	54.33		41.2	53.85	23.8	54.95	86.8	93.75	65.4	72.41	92.2	100.0		
69 m.p.h.	63.9	81.50		69.1	81.12	55.9	81.98	96.9	98.44	88.5	93.10	99.0	100.0		
74 m.p.h.	85.4	95.67		90.4	93.71	79.7	98.20	98.4	100.0	92.3	100.0	100	100.0		
79 m.p.h.	94.1	98.82		96.3	97.90	91.5	100.0	99.2	100.0	96.2	100.0	100	100.0		
84 m.p.h.	99.2	99.21		99.3	98.60	99.2	100.0	100	100.0	100	100.0	100	100.0		
89 m.p.h.	99.6	99.21		99.3	98.60	100	100.0	100	100.0	100	100.0	100	100.0		
No. of vehicles obs.	127	126		66	72	61	54	68	64	16	18	52	46		
Average speed	67.8	64.28		66.2	64.40	69.4	64.11	55.0	52.41	61.1	59.50	53.1	49.63		
No. of vehicles obs.	127	128		70	71	57	57	61	64	10	11	51	53		
Average speed	66.2	62.75		65.5	63.11	66.9	62.30	57.2	55.28	61.4	57.09	56.4	54.91		



TABLE 8 SPEED DATA

Station 8 Highway U.S. 52 Location 1.0 Mile West of Klondike

No. of Lanes 4 Type of Surface Asphaltic Concrete Weather Sunny

This Observation Last Previous Observation (Speed Report No. 87)

Date June 23, 1970 Date July 30, 1969

Time 8:30 - 11:20 a.m. Time 1:35 - 2:45 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.		284	302	167	178	117	124	109	146	27	31	82	115
Average speed (m.p.h.)		65.49	63.45	64.9	63.02	66.3	64.07	60.00	55.71	62.4	57.13	59.2	55.33
Standard deviation		7.92	6.980	8.34	7.555	7.22	6.038	7.15	5.982	9.60	7.224	6.02	5.575
24 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 m.p.h.		0.0	.33	0.0	.56	0.0	0.0	0.9	.68	3.7	0.0	0.0	.87
44 m.p.h.		0.7	1.32	1.2	2.25	0.0	0.0	0.9	4.11	3.7	3.23	0.0	4.35
49 m.p.h.		3.2	2.32	3.6	3.93	2.6	0.0	6.4	12.33	14.8	16.13	3.7	11.30
54 m.p.h.		8.4	6.95	11.4	8.43	4.3	4.84	18.4	41.10	18.5	35.48	18.3	42.61
59 m.p.h.		18.3	24.83	21.0	28.65	14.5	19.35	50.5	71.23	33.3	58.06	56.1	74.78
64 m.p.h.		39.8	55.30	43.7	57.30	34.2	52.42	73.4	94.52	51.8	83.87	80.5	97.39
69 m.p.h.		73.2	83.77	73.6	84.83	72.6	82.26	86.2	99.32	70.4	96.77	91.5	100.0
74 m.p.h.		91.9	95.36	92.2	96.07	91.4	94.35	97.2	100.0	92.6	100.0	98.8	100.0
79 m.p.h.		95.4	98.68	95.8	98.31	94.9	99.19	100	100.0	100	100.0	100	100.0
84 m.p.h.		99.6	99.01	99.4	98.88	100	99.19	100	100.0	100	100.0	100	100.0
89 m.p.h.		99.6	99.67	99.4	99.44	100	100.0	100	100.0	100	100.0	100	100.0
No. of vehicles obs.		140	158	81	83	59	75	56	64	14	17	42	47
Average speed		66.2	63.54	65.6	61.88	67.1	65.37	61.0	55.94	61.4	55.94	60.8	55.94
No. of vehicles obs.		144	144	86	95	58	49	53	82	13	14	40	68
Average speed		64.9	63.36	64.3	64.02	65.5	62.08	59.0	55.54	63.4	58.57	57.6	54.91

All Vehicles  
at or less than





TABLE 9 SPEED DATA

Station 9 Highway U.S. 35 Location 1.50 Miles East of Junction I-69

No. of Lanes 2 Type of Surface Asphaltic Concrete Weather Sunny

This Observation Last Previous Observation (Speed Report No. ---)

Date August 8, 1970 Date New Station

Time 1:35 - 3:30 p.m. Time ---

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles at or less than traveling	No. of vehicles obs.	250	253	122	222	128	31	146	121	49	42	97	79
	Average speed (m.p.h.)	63.46	62.06	62.60	62.16	64.28	61.32	57.53	56.91	59.53	59.90	56.53	55.32
	Standard deviation	7.569	6.385	8.090	6.561	6.970	4.969	7.911	7.029	7.768	6.970	7.829	6.562
	24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	1.40	0.0	1.82	0.0	0.0	0.0	2.05	2.48	0.0	0.0	3.09	3.80
	44 m.p.h.	1.60	.40	3.28	.45	0.0	0.0	5.48	4.13	0.0	2.38	8.25	5.06
	49 m.p.h.	4.80	3.16	7.38	3.65	2.34	0.0	14.38	10.74	10.20	7.14	16.49	12.66
	54 m.p.h.	12.80	11.86	17.21	12.16	8.59	9.68	32.88	33.06	22.45	19.05	38.14	40.51
Bound	59 m.p.h.	26.0	29.25	29.51	28.38	22.66	35.43	58.90	61.98	57.14	42.86	59.79	72.15
	64 m.p.h.	53.60	64.03	54.10	62.61	53.13	74.19	83.56	85.95	75.51	73.81	87.63	92.41
	69 m.p.h.	80.0	89.33	82.79	88.74	77.34	93.55	93.34	96.69	89.80	92.86	95.88	98.73
	74 m.p.h.	94.4	98.02	95.9	97.75	92.57	100.0	97.95	100.0	93.88	100.0	100.0	100.0
	79 m.p.h.	99.2	99.21	100.0	99.10	98.44	100.0	99.32	100.0	97.96	100.0	100.0	100.0
	84 m.p.h.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	89 m.p.h.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	No. of vehicles obs.	128	126	61	106	67	20	82	60	33	23	49	37
	Average speed	62.30	61.99	61.51	62.31	63.03	60.30	56.28	55.18	58.82	59.35	54.57	52.59
	No. of vehicles obs.	122	127	62	116	61	11	64	61	16	19	48	42
	Average speed	64.67	62.13	63.69	62.03	65.66	63.18	59.14	58.61	61.00	60.58	58.52	57.71



TABLE 10 SPEED DATA

Station 10 Highway U.S. 43 Location 2.0 Miles South of Chalmers  
 No. of Lanes 2 Type of Surface Asphaltic Concrete Weather Cloudy  
 This Observation Date June 26, 1970 Last Previous Observation (Speed Report No. 87)  
 Date July 22, 1969  
 Time 9:05 - 12:05 p.m. Time 10:20 - 2:30 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles traveling at or less than	No. of vehicles obs.	261	259	242	235	19	24	119	119	60	45	59	74
	Average speed (m.p.h.)	66.95	63.82	66.9	63.67	67.8	65.25	59.67	56.39	64.0	58.16	55.3	55.32
	Standard deviation	9.11	7.542	9.22	7.254	7.70	10.018	7.69	6.998	7.88	7.883	4.31	6.216
	24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	44 m.p.h.	0.4	0.0	0.4	0.0	0.0	0.0	0.0	4.20	0.0	2.22	0.0	5.41
	49 m.p.h.	0.8	3.47	0.8	2.98	0.0	8.33	3.4	15.13	3.3	6.67	3.4	20.27
	54 m.p.h.	10.0	9.65	10.7	9.36	0.0	12.50	31.9	39.50	11.7	33.33	52.4	43.24
No. of vehicles obs.	59 m.p.h.	19.9	26.64	19.8	26.38	21.0	29.17	56.3	69.75	31.7	64.44	81.4	72.97
	64 m.p.h.	38.3	52.51	39.3	53.62	26.3	41.67	74.0	89.92	51.7	82.22	96.6	94.59
	69 m.p.h.	61.3	77.22	62.0	77.87	52.6	70.83	85.7	97.48	73.3	93.33	98.3	100.0
	74 m.p.h.	82.4	93.05	82.2	94.04	84.2	83.33	96.6	99.16	93.3	97.78	100	100.0
	79 m.p.h.	93.1	97.68	93.0	98.30	94.7	91.67	98.3	99.16	96.7	97.78	100	100.0
	84 m.p.h.	97.3	98.84	97.1	99.15	100	95.83	100	99.16	100	97.78	100	100.0
	89 m.p.h.	98.5	100.0	98.4	100.0	100	100.0	100	100.0	100	100.0	100	100.0
	No. of vehicles obs.	124	118	112	107	12	11	61	59	31	25	30	34
	Average speed	66.0	63.28	66.0	63.33	65.8	62.82	59.8	57.02	64.2	58.68	55.3	55.79
	No. of vehicles obs.	137	141	130	128	7	13	58	60	29	20	29	40
Average speed		67.8	64.27	67.6	63.96	71.4	67.31	59.6	55.78	63.8	57.50	55.3	54.92



TABLE 11 SPEED DATA

Station 11 Highway U.S. 31 Location 3.0 Miles South of Rochester

No. of Lanes 2 This Observation Asphaltic Concrete Weather Clear

Date July 21, 1970 Last Previous Observation (Speed Report No. 87)

Time 10:25 - 12:35 p.m. Date August 4, 1969

Time 10:25 - 2:00 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.		240	251	176	195	64	56	98	84	43	30	55	54
Average speed (m.p.h.)		64.19	62.36	64.0	62.09	64.7	63.29	57.6	57.05	57.9	59.50	57.4	55.69
Standard deviation		7.16	7.268	7.41	7.377	6.42	6.862	7.24	6.052	8.09	6.622	6.58	5.298
24 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	2.3	0.0	0.0	0.0
39 m.p.h.		0.4	0.0	0.6	0.0	0.0	0.0	2.0	0.0	2.3	0.0	1.8	0.0
44 m.p.h.		0.8	1.99	1.1	2.05	0.0	1.79	5.1	2.38	7.0	0.0	3.6	3.70
49 m.p.h.		2.1	3.98	2.8	4.62	0.0	1.79	11.2	7.14	7.0	3.33	14.6	9.26
54 m.p.h.		8.3	11.95	9.1	12.82	6.2	8.93	28.6	36.90	32.6	30.0	25.4	40.74
59 m.p.h.		23.3	31.47	22.7	33.85	25.0	23.21	56.1	69.05	60.5	60.0	52.7	74.07
64 m.p.h.		52.1	64.14	53.4	64.62	48.4	62.50	84.7	89.29	79.1	73.33	89.1	98.15
69 m.p.h.		77.9	84.46	78.4	85.64	76.6	80.36	96.9	96.43	95.4	90.00	98.2	100.0
74 m.p.h.		93.3	95.62	92.6	95.90	95.3	94.64	99.0	100.0	97.7	100.0	100	100.0
79 m.p.h.		98.3	98.80	98.3	98.46	98.4	100.0	100	100.0	100	100.0	100	100.0
84 m.p.h.		100	99.60	100	99.49	100	100.0	100	100.0	100	100.0	100	100.0
89 m.p.h.		100	99.60	100	99.49	100	100.0	100	100.0	100	100.0	100	100.0
No. of vehicles obs.		110	125	84	103	26	22	44	42	20	16	24	26
Average speed		64.4	61.32	64.6	60.93	63.8	63.14	59.2	58.40	59.4	60.56	59.1	57.08
No. of vehicles obs.		130	126	92	92	38	34	54	42	23	14	31	28
Average speed		64.0	63.39	63.5	63.39	65.3	63.38	56.4	55.69	56.6	58.29	56.2	54.39

ALL vehicles  
at or less than



TABLE 12		SPEED DATA	
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

Station 12 Highway S.R. 25 Location 0.7 Miles West of Americus Weather Partly Cloudy  
No. of Lanes 2 Type of Surface Asphaltic Concrete Last Previous Observation (Speed Report No. 87)  
Date June 25, 1970 Date August 18, 1969  
Time 8:55 - 11:15 a.m. Time 9:00 - 12:30 p.m.

PASSENGER CARS										TRUCKS					
OBSERVATION	All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more				
	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present			
No. of vehicles obs.	235	236	217	207	18	29	104	108	45	31	59	77			
Average speed (m.p.h.)	63.52	60.38	63.9	60.26	62.4	61.17	56.50	54.74	59.5	58.32	54.2	53.30			
Standard deviation	7.62	7.334	7.54	7.603	8.76	5.689	8.19	6.301	9.41	6.838	6.31	5.487			
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
39 m.p.h.	0.0	.42	0.0	.42	0.0	0.0	1.9	0.0	2.2	0.0	1.7	0.0			
44 m.p.h.	0.3	2.07	0.0	3.32	0.0	0.0	4.2	6.48	4.4	6.45	5.1	6.49			
49 m.p.h.	2.6	1.36	1.0	7.25	11.1	0.0	13.5	20.37	1.7	9.68	12.6	24.68			
54 m.p.h.	11.0	17.20	11.5	18.36	16.7	13.72	41.4	47.22	26.7	25.81	52.5	55.51			
59 m.p.h.	24.3	30.41	24.4	30.61	22.2	37.93	62.3	72.22	57.8	48.39	76.3	81.82			
64 m.p.h.	55.7	70.76	56.2	71.01	50.0	68.27	84.5	94.14	75.6	80.65	94.9	100.0			
69 m.p.h.	79.7	90.25	79.8	80.86	77.9	92.10	90.4	100.0	82.7	100.0	96.6	100.0			
74 m.p.h.	90.6	97.23	91.2	97.10	83.3	96.55	96.2	100.0	91.1	100.0	100	100.0			
79 m.p.h.	98.3	99.15	98.2	99.23	100	100.0	99.0	100.0	97.8	100.0	100	100.0			
84 m.p.h.	99.6	100.0	99.5	100.0	100	100.0	100	100.0	100	100.0	100	100.0			
89 m.p.h.	100	100.0	100	100.0	100	100.0	100	100.0	100	100.0	100	100.0			
No. of vehicles obs.	130	117	116	96	14	21	63	55	27	15	36	40			
Average speed	63.5	60.26	62.6	60.29	62.2	60.67	57.2	53.44	61.1	57.73	54.2	51.82			
No. of vehicles obs.	105	119	101	111	4	8	41	53	18	16	23	37			
Average speed	64.2	61.60	64.1	61.53	65.5	62.50	55.6	51.00	57.1	58.20	54.2	54.29			





TABLE 13 SPEED DATA

Station 1,2,3,4 Highway Interstate Location See Individual Stations

No. of Lanes This Observation Type of Surface Weather  
 Date                      Date                       
 Time                      Time                     

Last Previous Observation (Speed Report No. 87)

OBSERVATION		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
ALL vehicles at or less than # of vehicles traveling	No. of vehicles obs.	1110	1138	615	694	495	444	351	388	96	82	255	306
	Average speed (m.p.h.)	70.62	69.16	70.2	69.13	71.2	69.21	61.36	60.48	65.3	63.84	59.9	59.58
	Standard deviation	7.07	6.707	7.30	7.055	6.75	6.132	7.79	6.508	8.11	8.146	7.13	5.680
	24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	0.0	.09	0.0	.14	0.0	0.0	0.0	.52	0.0	1.22	0.0	.33
	44 m.p.h.	0.1	.09	0.2	.14	0.0	0.0	1.4	1.03	1.0	1.22	1.6	.98
	49 m.p.h.	0.4	.44	0.6	.29	0.2	.68	6.6	4.12	3.1	4.88	7.8	3.92
	54 m.p.h.	1.5	2.02	1.6	1.87	1.4	2.25	18.8	17.53	7.3	12.20	23.1	18.95
	59 m.p.h.	6.6	7.64	7.2	8.79	5.9	5.86	37.9	42.01	21.9	28.05	43.9	45.75
	64 m.p.h.	17.0	21.09	18.2	22.91	15.6	18.24	65.0	73.20	45.8	46.34	72.2	80.39
	69 m.p.h.	42.1	51.05	45.4	51.15	37.3	50.90	86.0	92.78	67.7	73.17	92.9	98.04
	74 m.p.h.	70.6	82.86	73.3	81.56	67.3	84.91	94.9	98.45	85.4	93.90	98.4	99.67
	79 m.p.h.	91.5	94.29	92.4	93.95	90.5	94.82	98.9	99.48	95.8	97.56	100	100.0
	84 m.p.h.	97.4	98.59	97.1	97.98	97.8	99.55	99.7	100.0	99.0	100.0	100	100.0
	89 m.p.h.	99.1	99.38	98.7	98.99	99.6	100.0	100	100.0	100	100.0	100	100.0



TABLE 14 SPEED DATA

Station 5,6,7,8 Highway 1 Lanes See Individual Stations Location See Individual Stations Weather 87

No. of Lanes 1 Type of Surface Asphalt Last Previous Observation (Speed Report No. 87)

Date 10/1/54 Time 10:00

OBSERVATION		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.		1078	1107	670	719	408	388	484	523	130	135	354	388
Average speed (m.p.h.)		67.93	64.49	67.7	64.59	68.2	64.31	59.62	56.24	64.0	59.70	58.0	55.04
Standard deviation		7.65	7.070	7.95	7.429	7.14	6.356	7.72	6.926	8.62	8.043	6.70	6.058
24 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	.19	0.0	.74	0.0	0.0
39 m.p.h.		0.0	.27	0.0	.42	0.0	0.0	1.0	1.15	0.8	.74	1.1	1.29
44 m.p.h.		0.6	.72	0.4	.97	0.7	.26	2.5	5.16	1.5	5.93	2.8	4.90
49 m.p.h.		1.8	2.17	1.5	2.64	2.2	1.29	8.3	15.49	7.7	11.11	8.5	17.01
54 m.p.h.		4.7	6.78	5.5	6.82	3.4	6.70	22.9	39.39	14.6	20.74	26.0	45.88
59 m.p.h.		12.4	20.33	14.6	21.00	8.8	19.07	51.0	65.97	27.7	42.96	59.6	73.97
64 m.p.h.		27.6	48.33	30.3	48.40	23.0	48.20	72.5	90.06	46.9	73.33	81.9	95.88
69 m.p.h.		58.2	78.32	59.0	77.47	56.9	79.90	90.3	97.90	73.8	91.85	96.3	100.0
74 m.p.h.		83.8	93.59	83.3	92.35	84.6	95.88	96.9	99.62	90.0	98.52	99.4	100.0
79 m.p.h.		93.8	98.10	94.0	97.50	93.4	99.23	99.4	99.81	97.7	99.26	100	100.0
84 m.p.h.		99.0	99.28	98.5	99.17	99.8	99.48	99.8	100.0	99.2	100.0	100	100.0
89 m.p.h.		99.8	99.73	99.7	99.58	100	100.0	100	100.0	100	100.0	100	100.0

All vehicles

8 or vehicles traveling at or less than



TABLE 15 SPEED DATA

Station 9,10,11,12 Highway 2 Lanes Location See Individual Stations

No. of Lanes      Type of Surface      Weather     

This Observation      Last Previous Observation (Speed Report No. 87)

Date      Date     

Time      Time     

OBSERVATION		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.		986	999	757	859	229	140	467	432	197	148	270	284
Average speed (m.p.h.)		64.65	62.34	64.7	62.27	64.6	62.75	57.87	56.25	60.5	58.96	55.9	54.84
Standard deviation		8.04	7.218	8.31	7.251	7.06	7.018	7.84	6.700	8.55	7.137	6.67	6.007
24 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.5	0.0	0.0	0.0
39 m.p.h.		0.2	.10	0.3	.12	0.0	0.0	1.5	.69	1.0	0.0	1.8	1.06
44 m.p.h.		0.9	1.30	1.2	1.40	0.0	.71	3.8	4.40	2.5	2.70	4.8	5.28
49 m.p.h.		2.5	4.20	2.6	4.54	2.2	2.14	10.7	13.66	6.6	6.76	13.7	17.25
54 m.p.h.		10.8	12.71	11.6	13.04	7.9	10.71	33.6	39.12	22.3	27.03	41.8	45.42
59 m.p.h.		23.3	31.53	23.4	31.78	23.1	30.00	59.7	68.06	50.2	54.05	66.7	75.35
64 m.p.h.		49.7	62.66	49.8	62.63	49.3	62.86	82.0	89.81	69.0	77.70	91.5	96.13
69 m.p.h.		74.2	85.19	74.0	85.33	75.1	84.29	91.6	97.69	84.3	93.92	97.0	99.65
74 m.p.h.		90.1	95.90	89.4	96.16	92.1	94.29	97.4	99.77	93.9	99.32	100	100.0
79 m.p.h.		97.2	98.70	96.8	98.72	98.2	98.57	99.1	99.77	98.0	99.32	100	100.0
84 m.p.h.		99.2	99.60	98.9	99.65	100	99.29	100	99.77	100	99.32	100	100.0
89 m.p.h.		99.6	99.90	99.5	99.88	100	100.0	100	100.0	100	100.0	100	100.0

All vehicles  
at or less than



TABLE 16 SPEED DATA

Station 1 thru 12 Highway All Systems Location See Individual Stations

No. of Lanes This Observation Type of Surface Last Previous Observation (Speed Report No. 87) Weather 87

Date                      Date                     

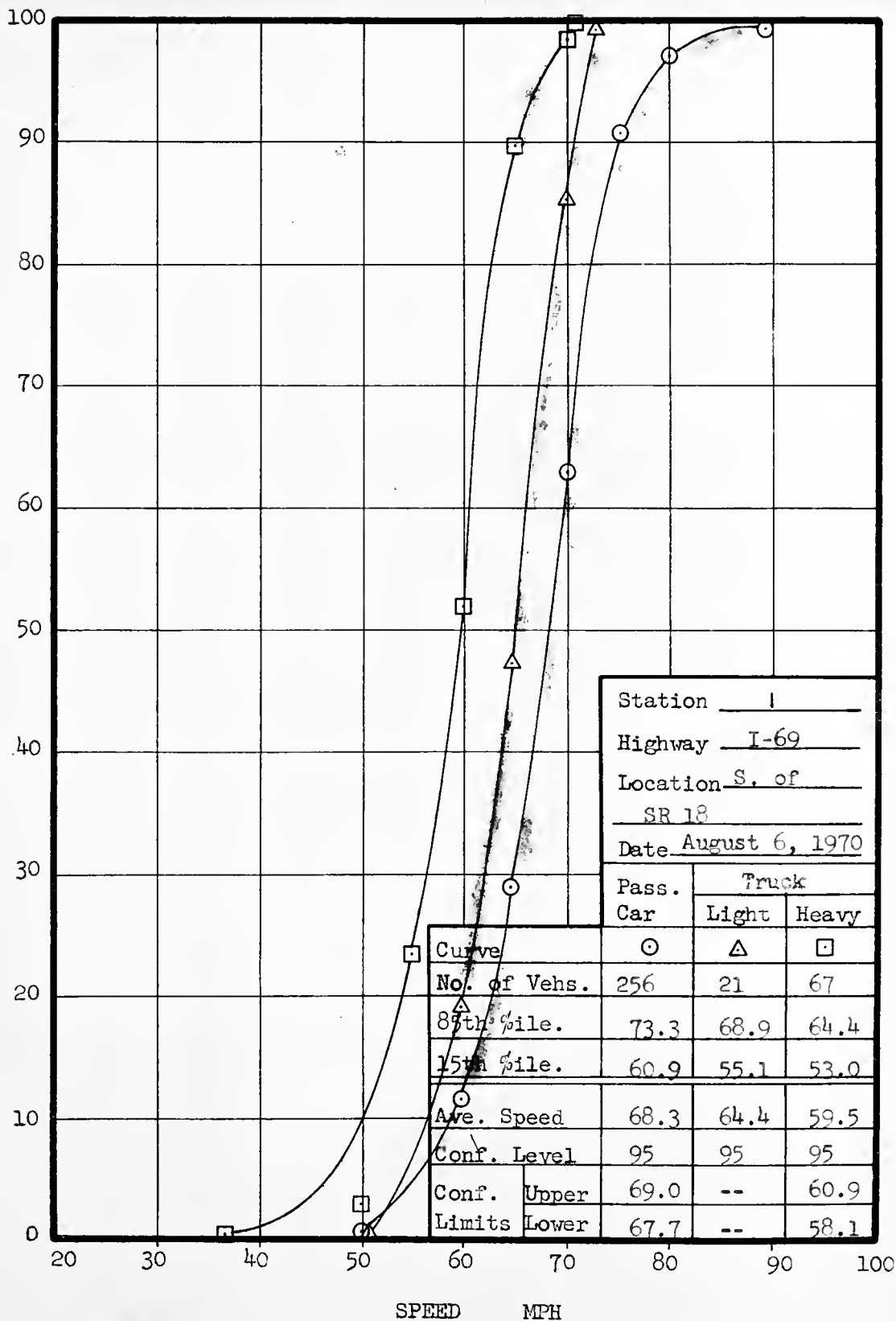
Time                      Time                     

OBSERVATION		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
ALL vehicles at or less than 8 of vehicles traveling	No. of vehicles obs.	3174	3244	2042	2272	1132	972	1302	1343	423	365	879	978
	Average speed (m.p.h.)	67.85	65.47	67.33	65.10	68.79	66.32	59.46	57.47	62.66	60.33	57.92	56.40
	Standard deviation	7.95	7.548	8.21	7.782	7.38	6.898	7.90	6.998	8.70	7.927	6.98	6.298
	24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	.07	0.2	.27	0.0	0.0
	39 m.p.h.	0.5	.15	0.1	.22	0.0	0.0	0.9	.82	0.7	.55	1.0	.92
	44 m.p.h.	1.5	.68	0.6	.88	0.3	.21	2.7	.372	1.9	3.56	3.1	3.78
	49 m.p.h.	5.5	2.19	1.7	2.64	1.3	1.13	8.7	11.62	6.2	7.95	9.9	12.99
	54 m.p.h.	5.5	6.94	6.6	7.66	3.4	5.25	25.6	32.99	6.6	21.37	30.0	37.32
ALL vehicles	59 m.p.h.	13.8	19.33	15.6	21.35	10.4	14.61	50.6	59.72	36.9	44.11	57.2	65.54
	64 m.p.h.	30.8	43.19	33.9	45.99	25.1	36.63	73.9	85.11	57.0	69.04	82.0	91.10
	69 m.p.h.	57.5	70.87	60.5	72.40	52.2	67.28	89.6	96.35	77.3	88.49	95.6	99.28
	74 m.p.h.	81.1	90.54	82.6	90.49	78.5	90.64	96.5	99.33	90.8	97.81	99.3	99.90
	79 m.p.h.	94.0	96.95	94.6	96.88	93.1	97.12	99.2	99.70	97.4	98.90	100	100.0
	84 m.p.h.	98.5	99.14	98.2	98.99	98.9	99.49	99.8	99.93	99.5	99.73	100	100.0
	89 m.p.h.	99.5	99.66	99.3	99.52	99.8	100.0	100	100.0	100	100.0	100	100.0



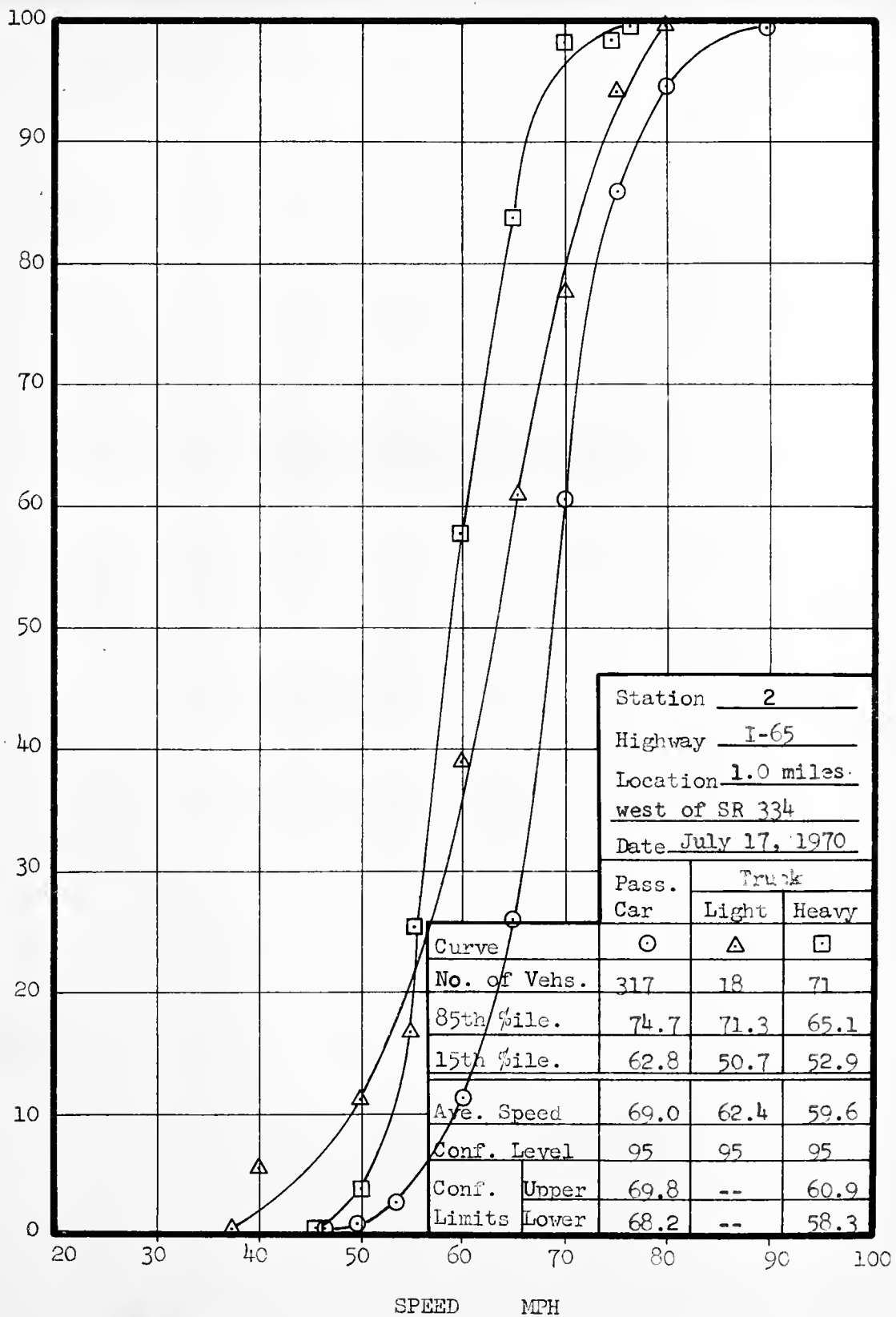


PERCENTILE



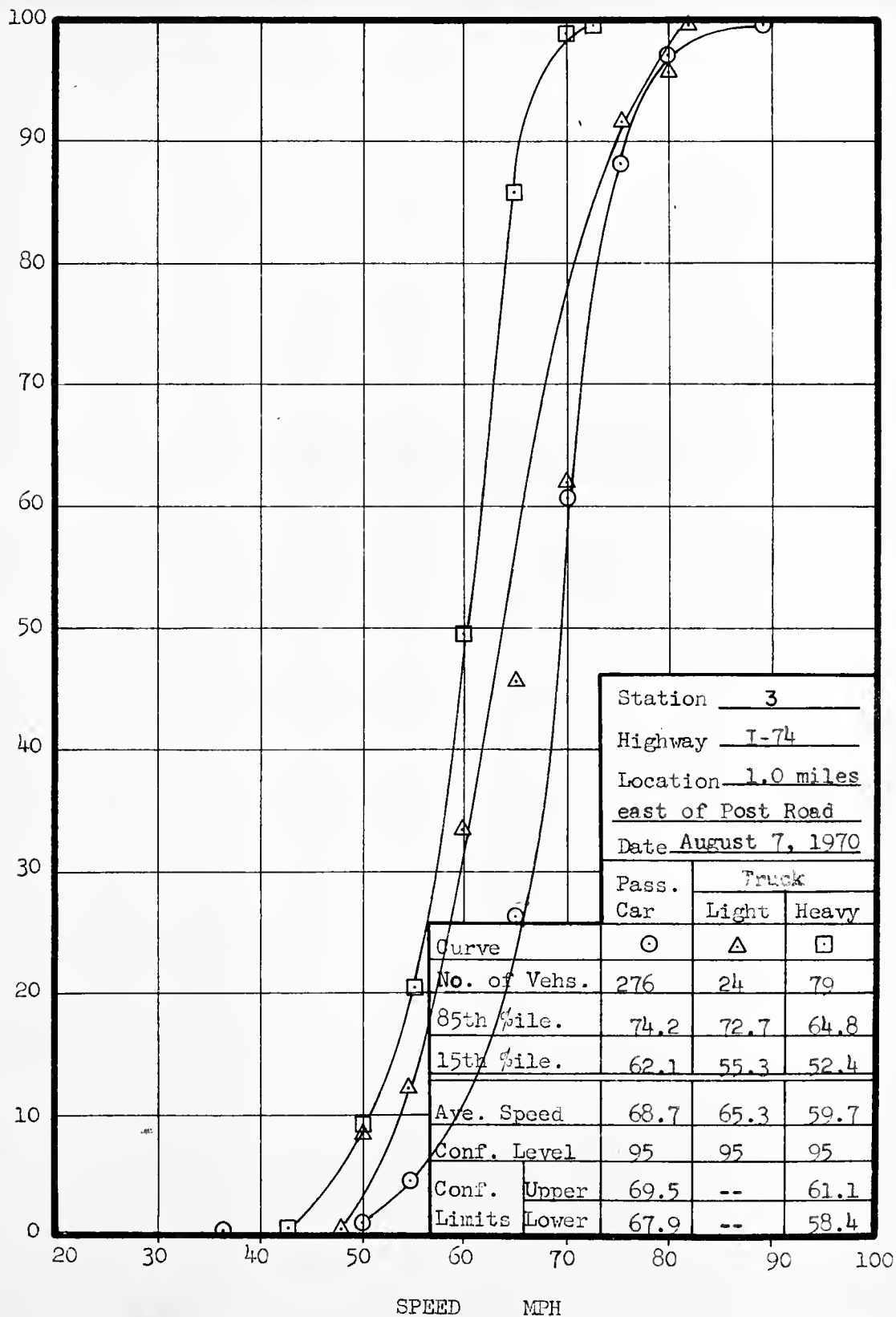


PERCENTILE





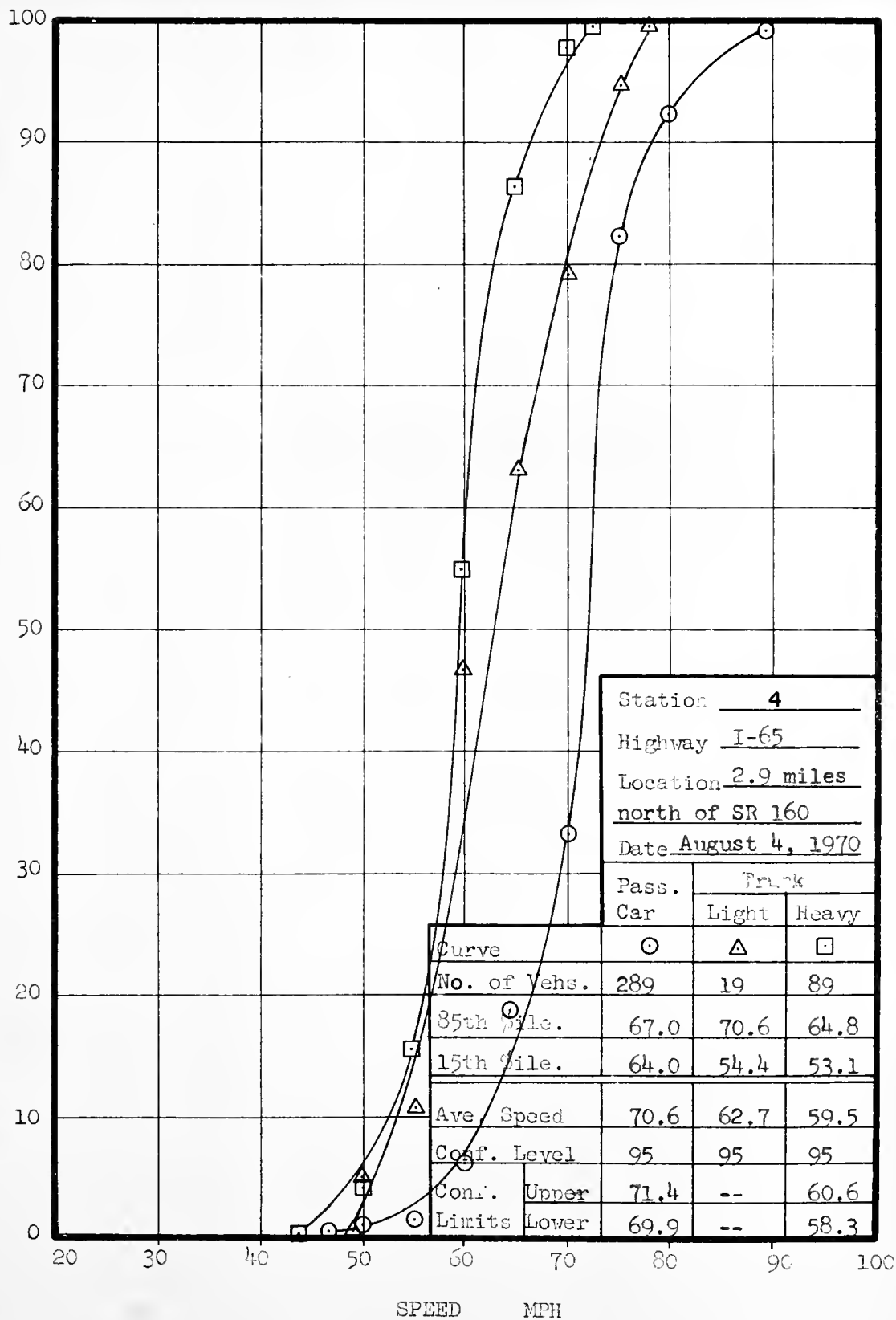
PERCENTILE



SPEED MPH



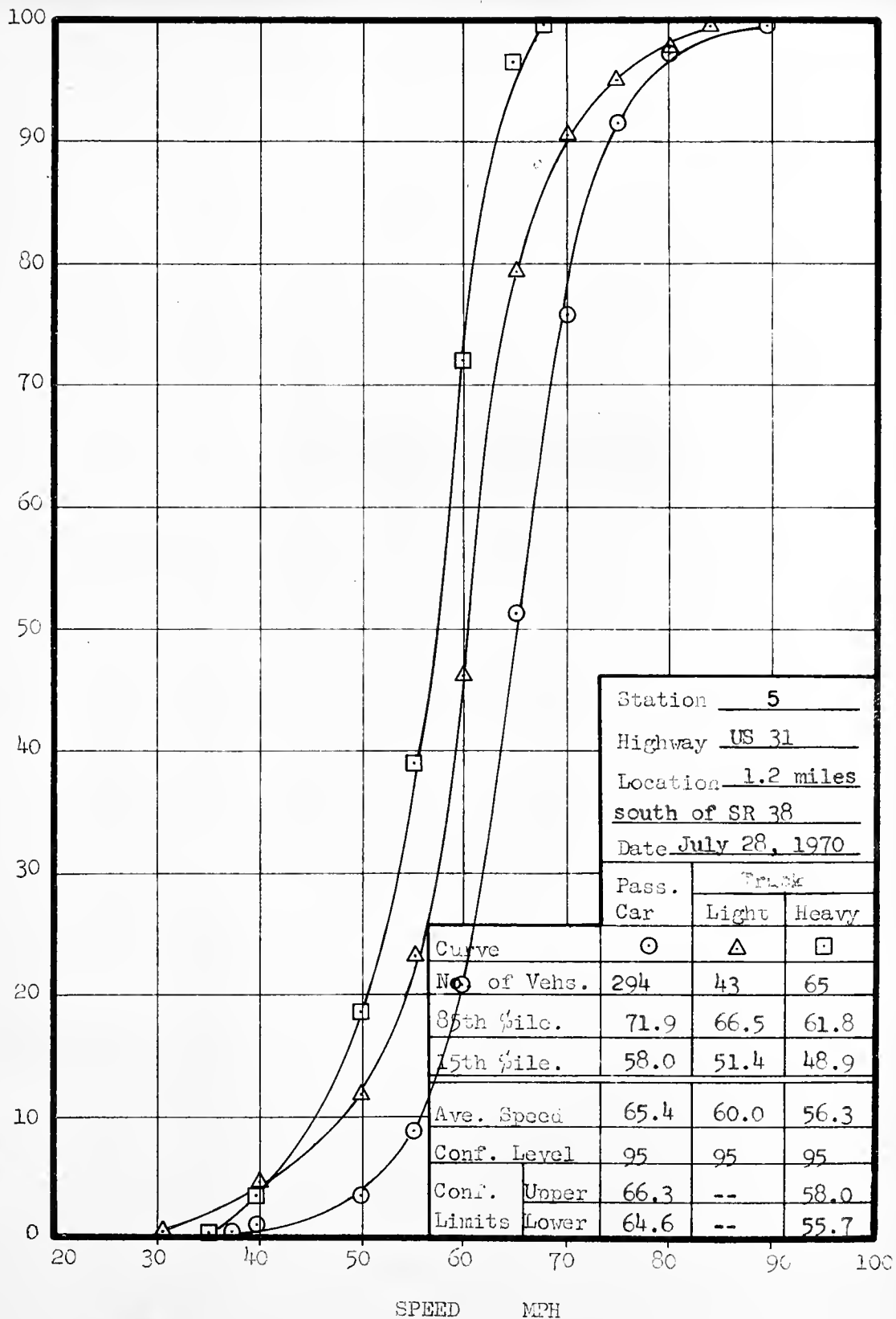
PERCENTILE







PERCENTILE

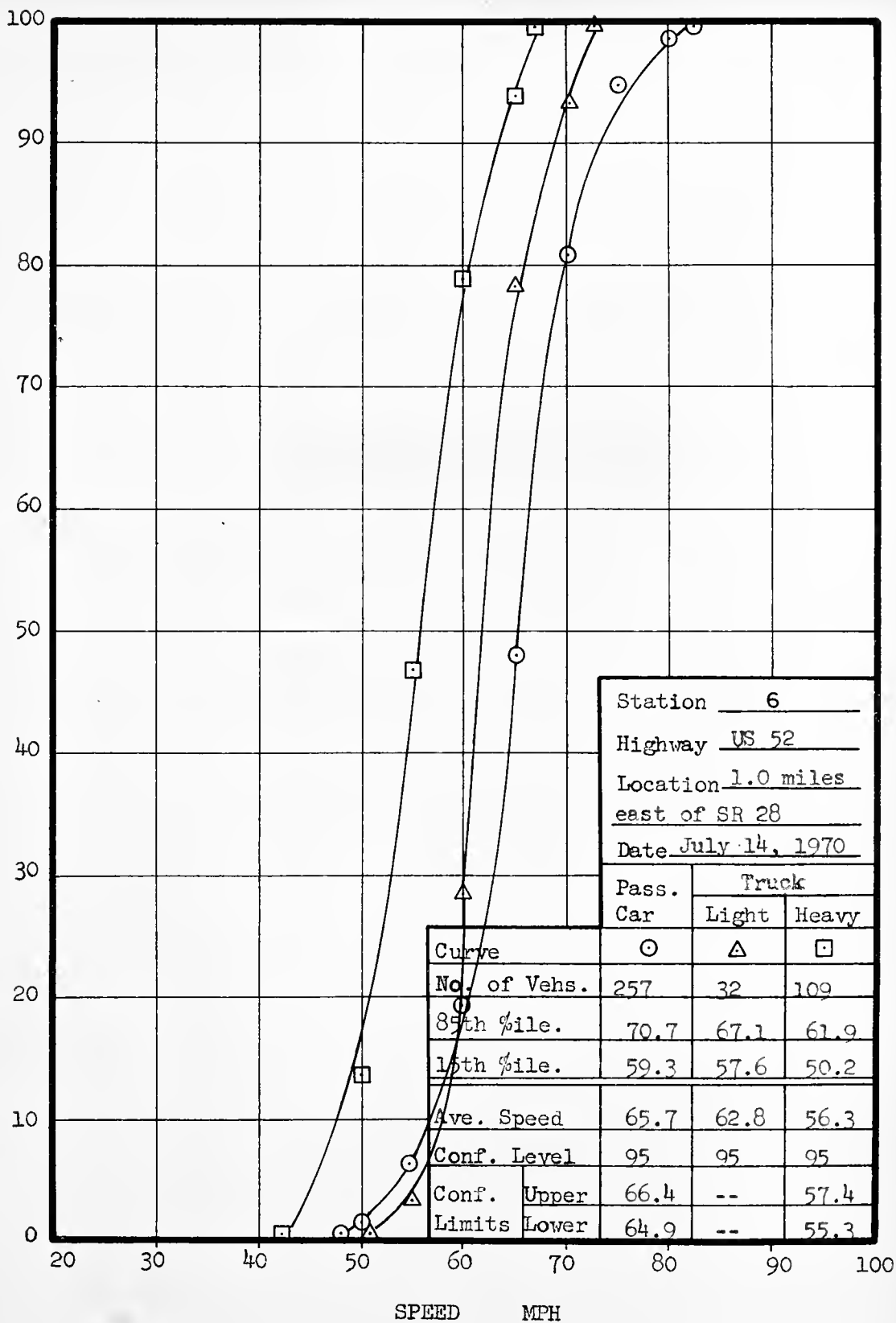


Station 5  
 Highway US 31  
 Location 1.2 miles south of SR 38  
 Date July 28, 1970

	Pass. Car	Truck	
		Light	Heavy
Curve	○	△	□
No. of Vehs.	294	43	65
85th %ile.	71.9	66.5	61.8
15th %ile.	58.0	51.4	48.9
Ave. Speed	65.4	60.0	56.3
Conf. Level	95	95	95
Conf. Limits	Upper	66.3	--
	Lower	64.6	58.0
		--	55.7

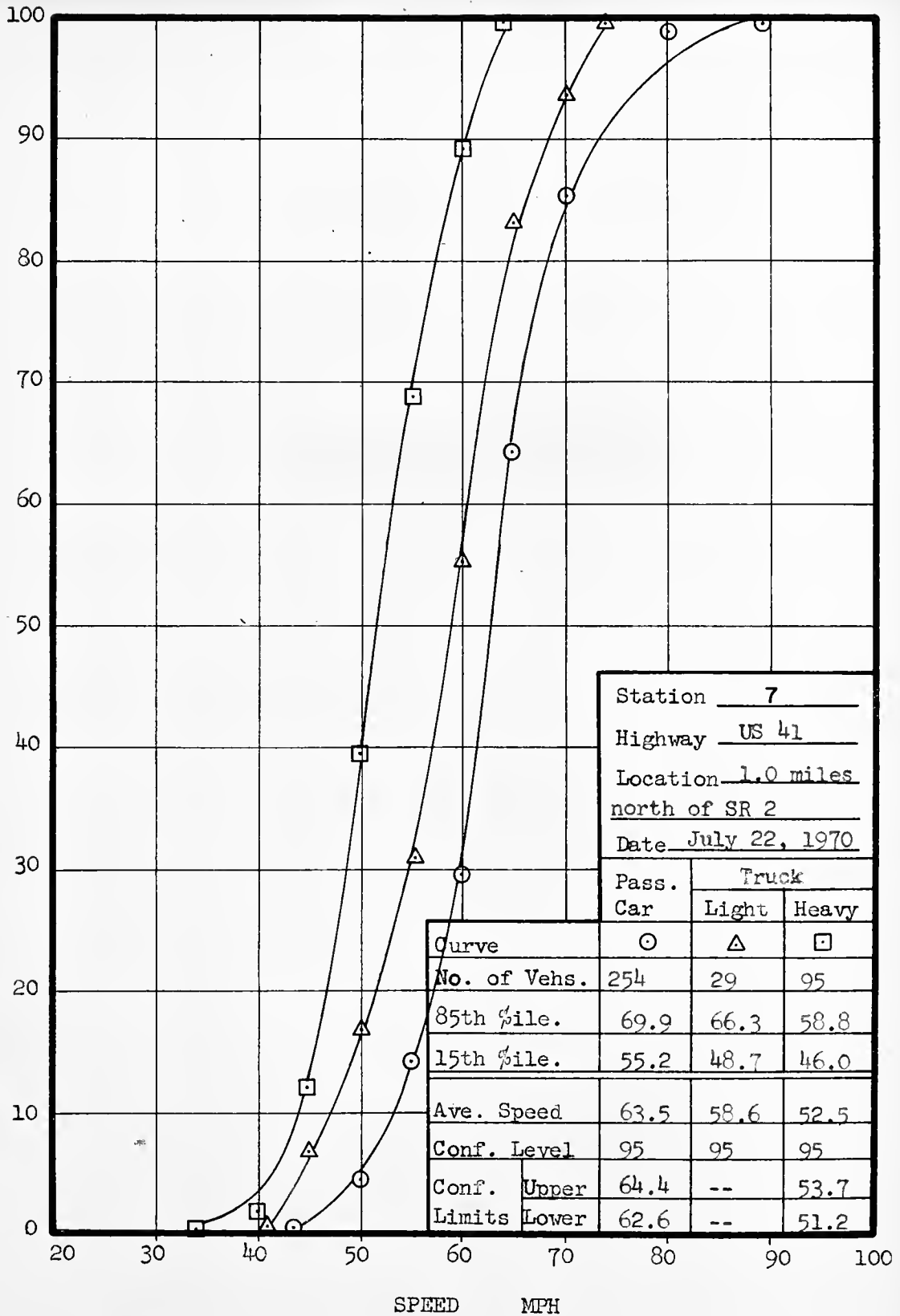


PERCENTILE



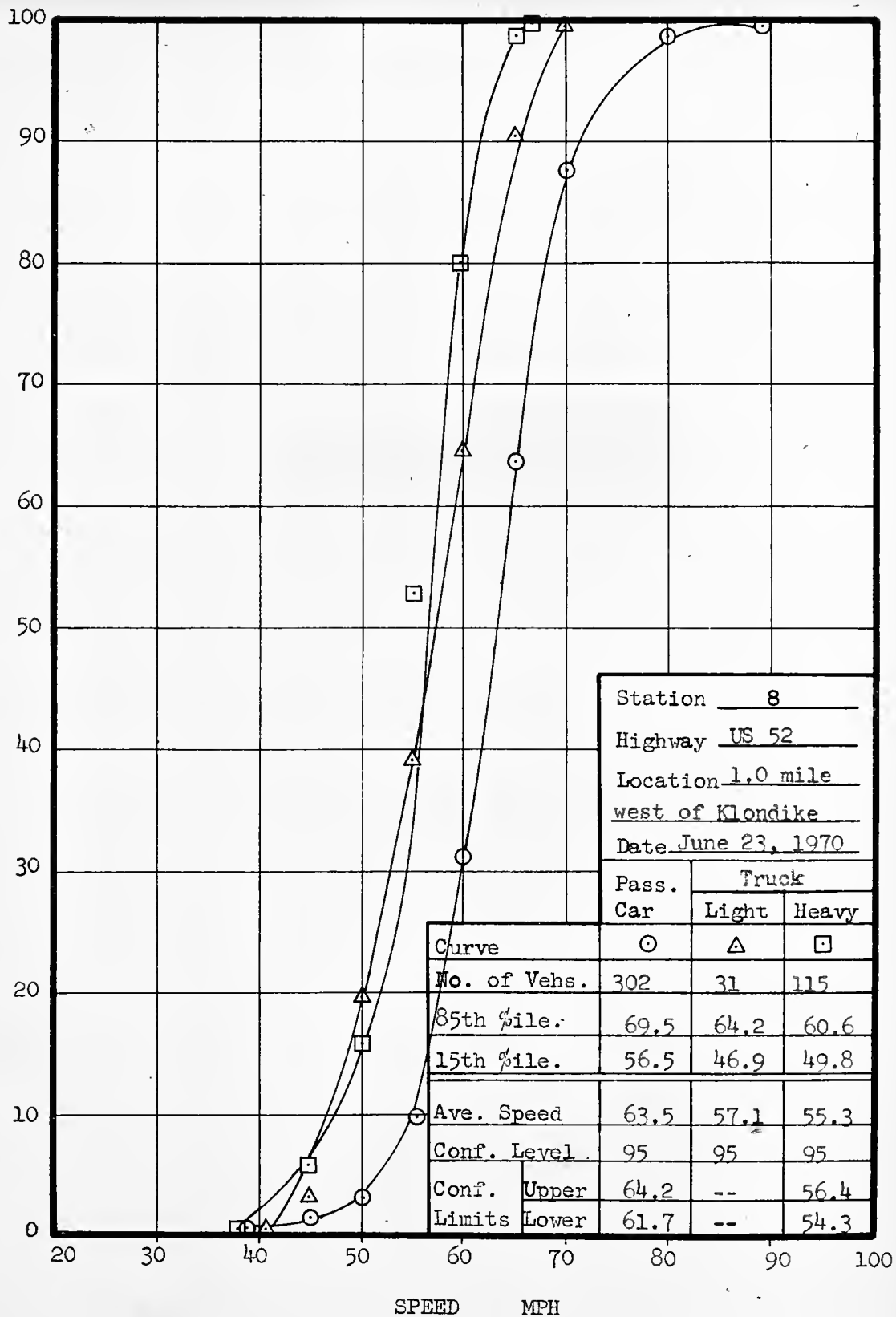


PERCENTILE





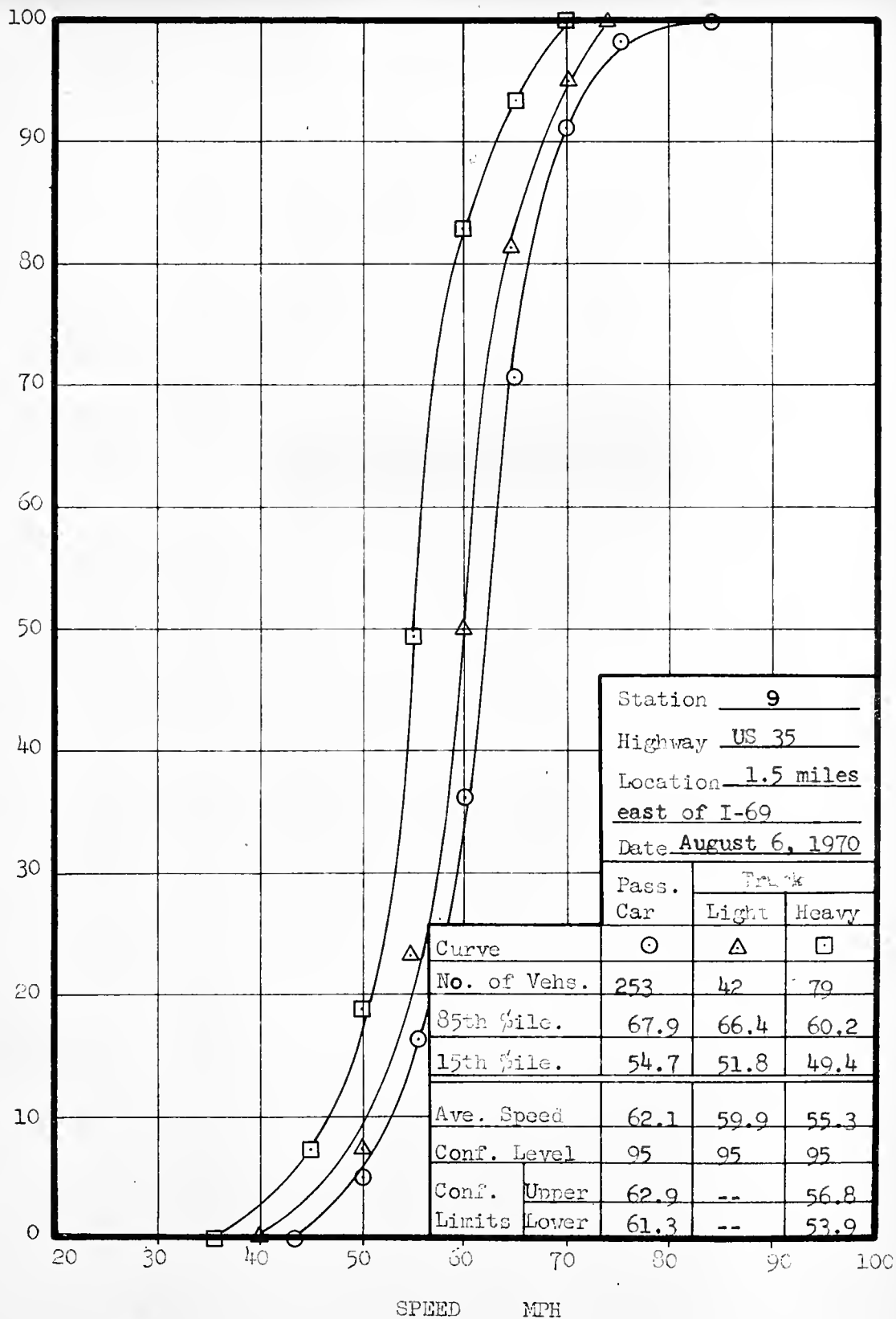
PERCENTILE





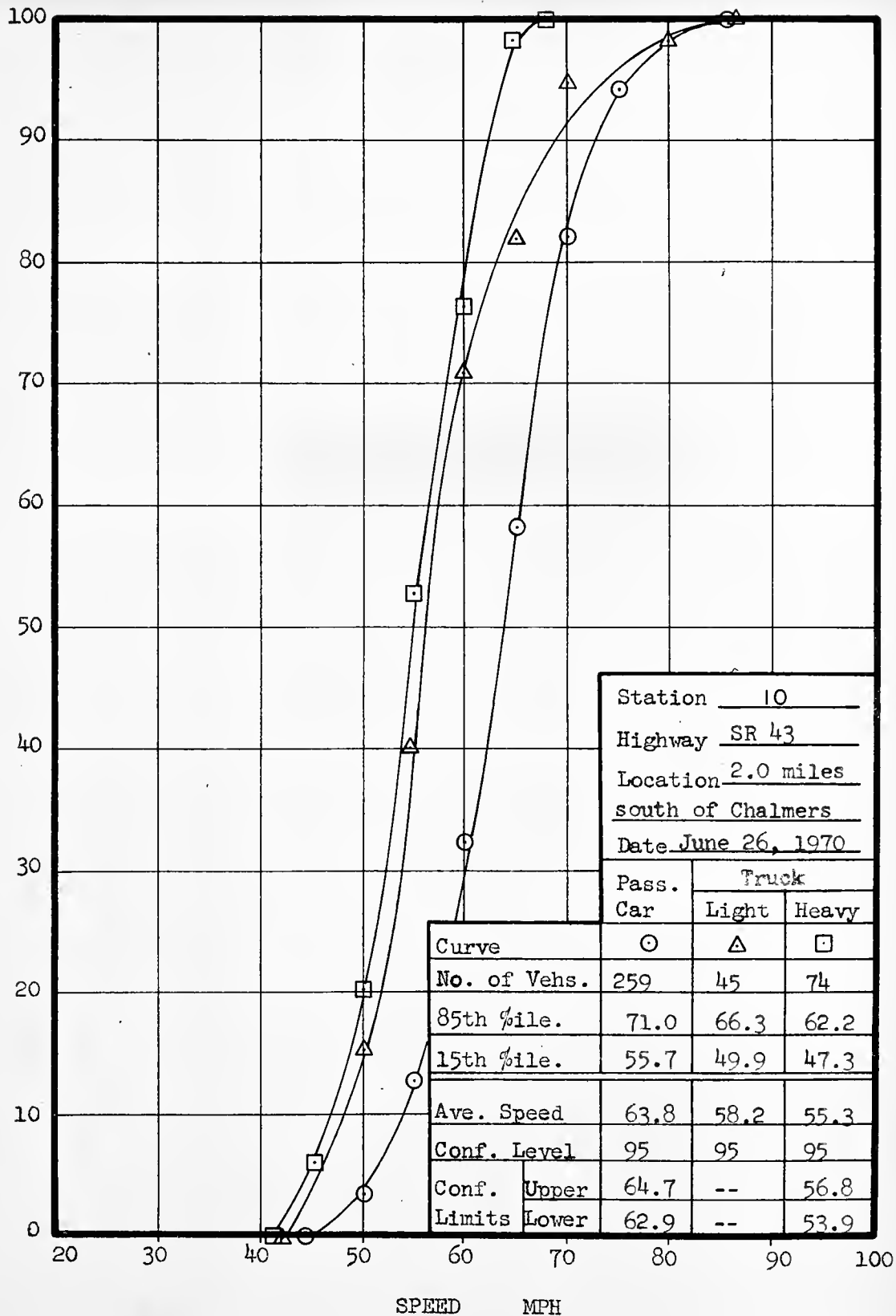


PERCENTILE





PERCENTILE

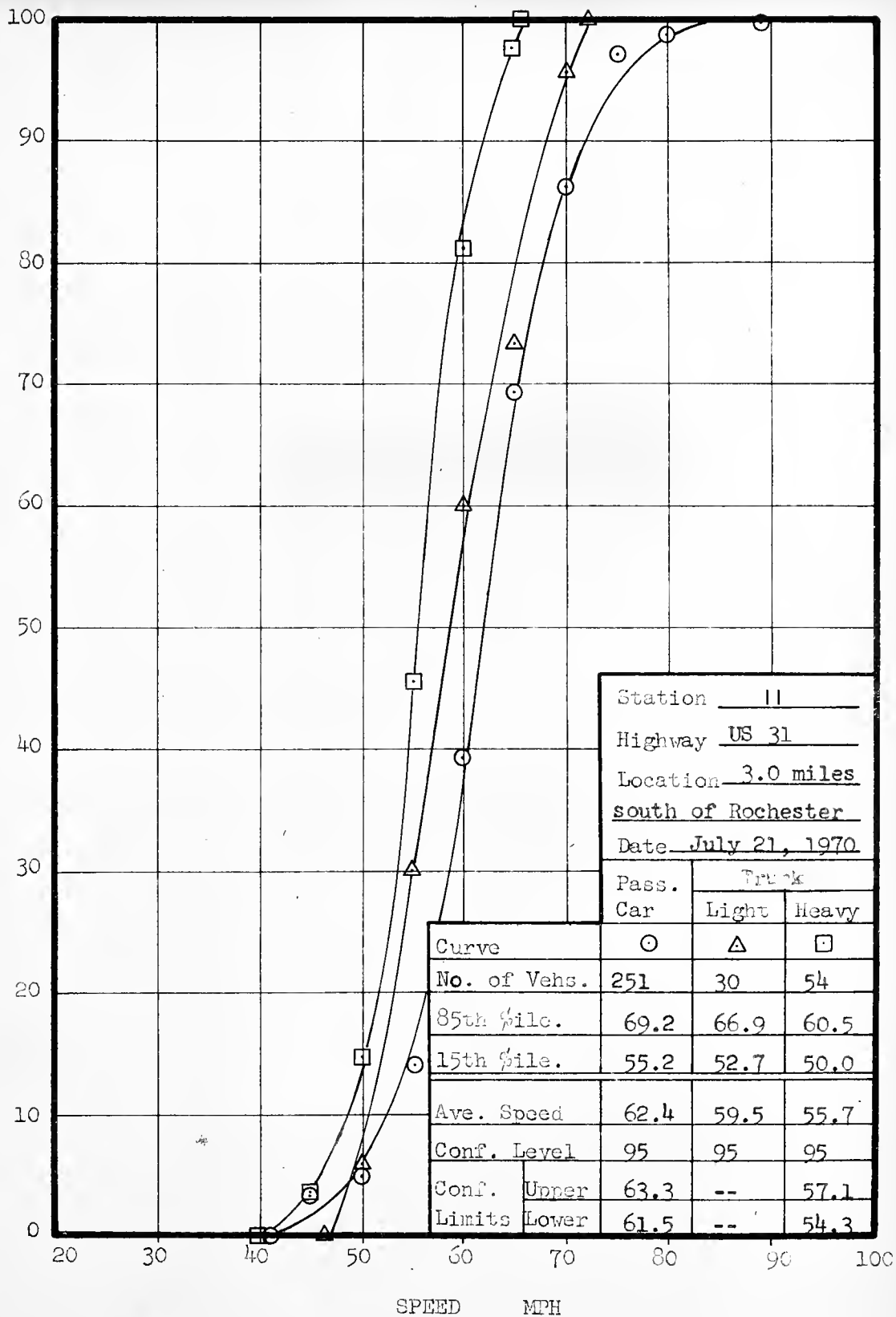


Station 10  
 Highway SR 43  
 Location 2.0 miles  
south of Chalmers  
 Date June 26, 1970

Curve	○	△	□
No. of Vehs.	259	45	74
85th %ile.	71.0	66.3	62.2
15th %ile.	55.7	49.9	47.3
Ave. Speed	63.8	58.2	55.3
Conf. Level	95	95	95
Conf. Limits	Upper	--	56.8
	Lower	--	53.9

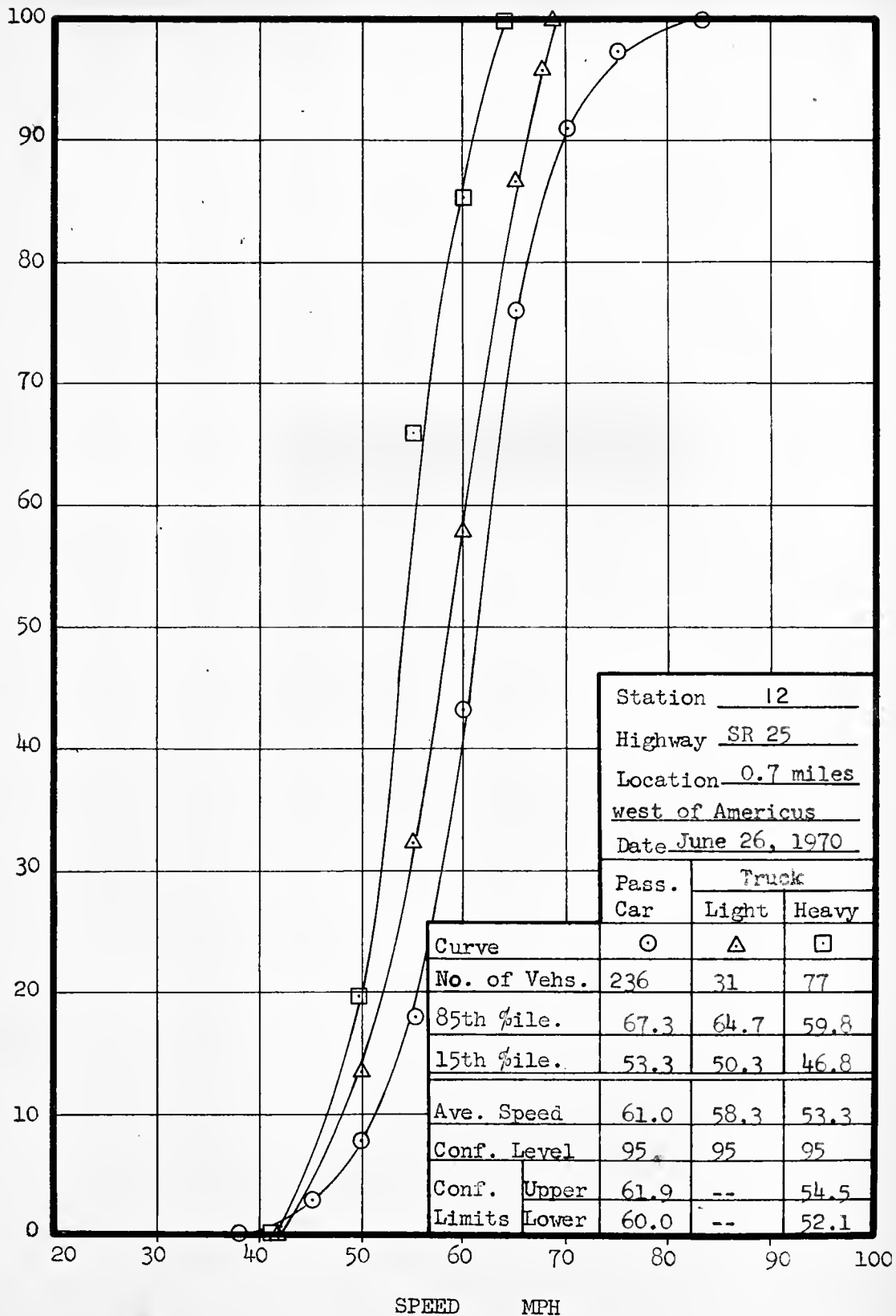


PERCENTILE





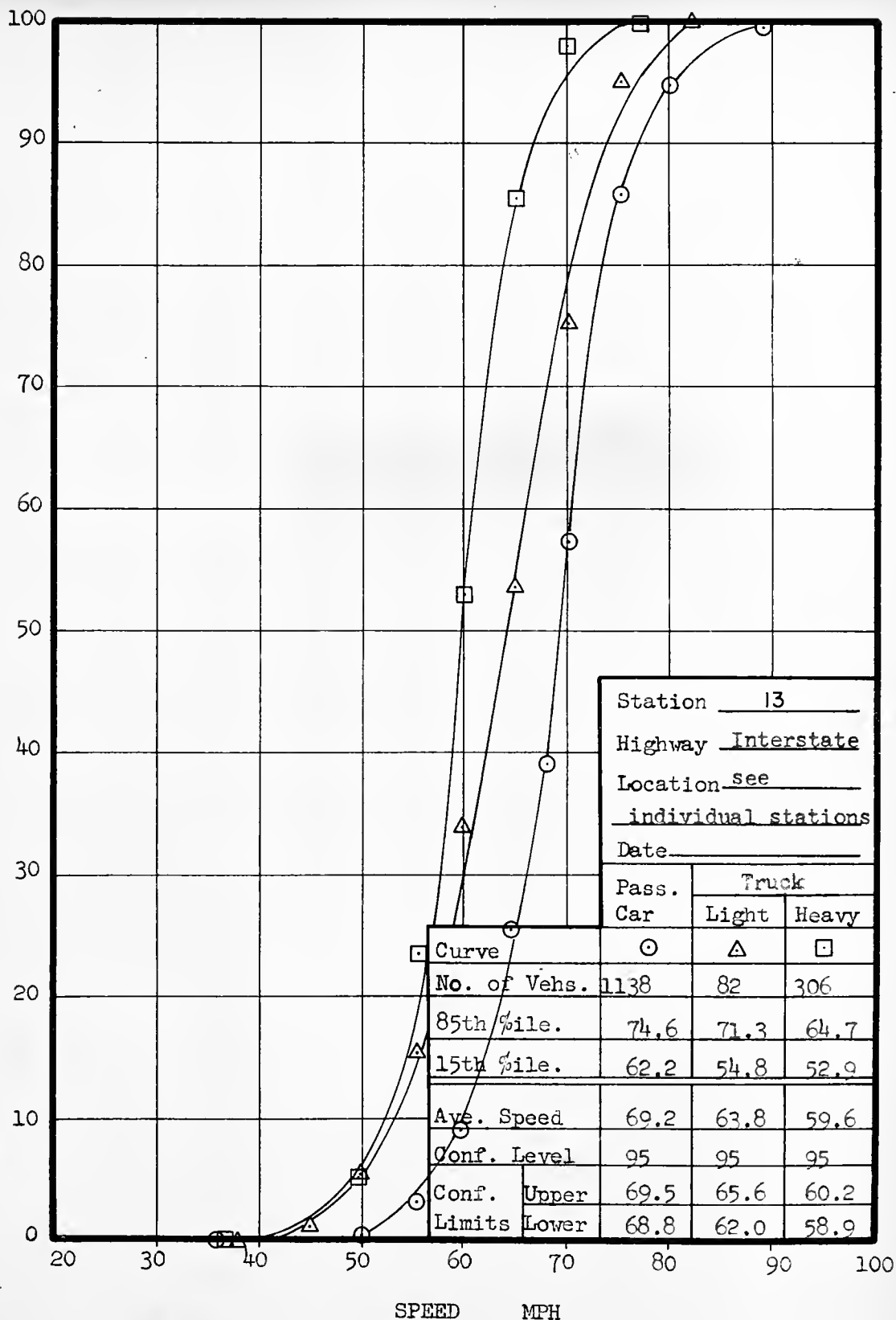
PERCENTILE





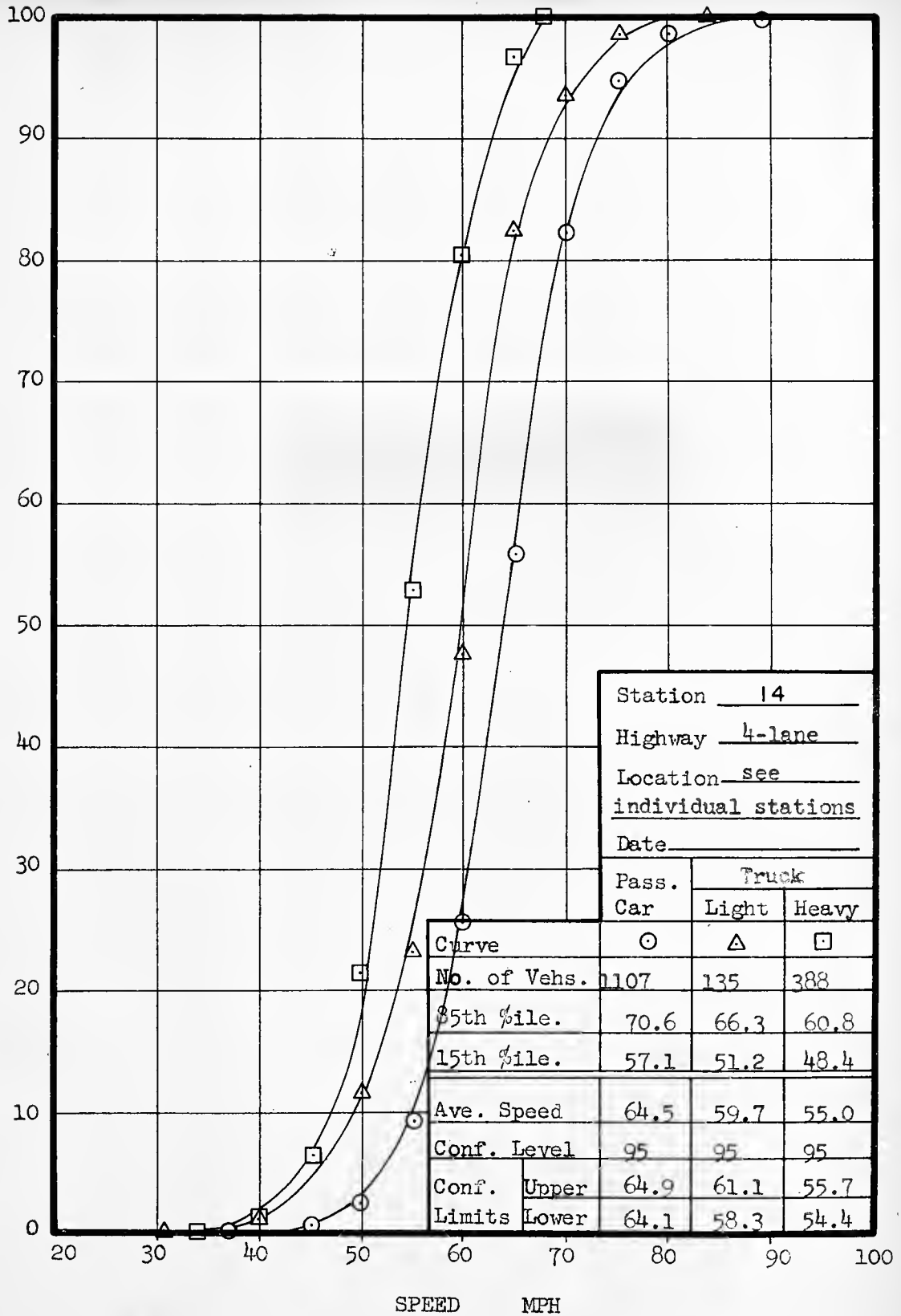


PERCENTILE



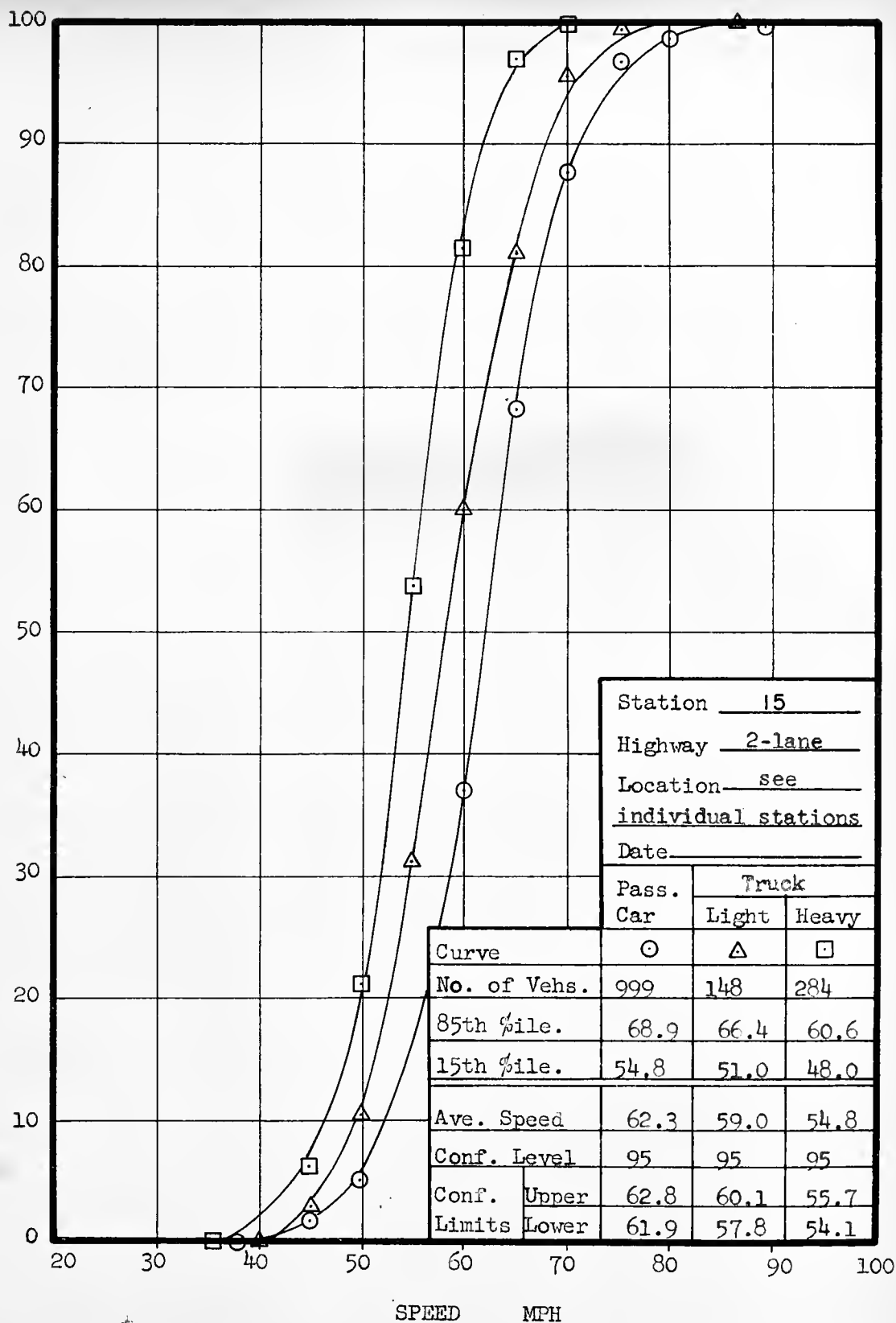


PERCENTILE





PERCENTILE



Station 15

Highway 2-lane

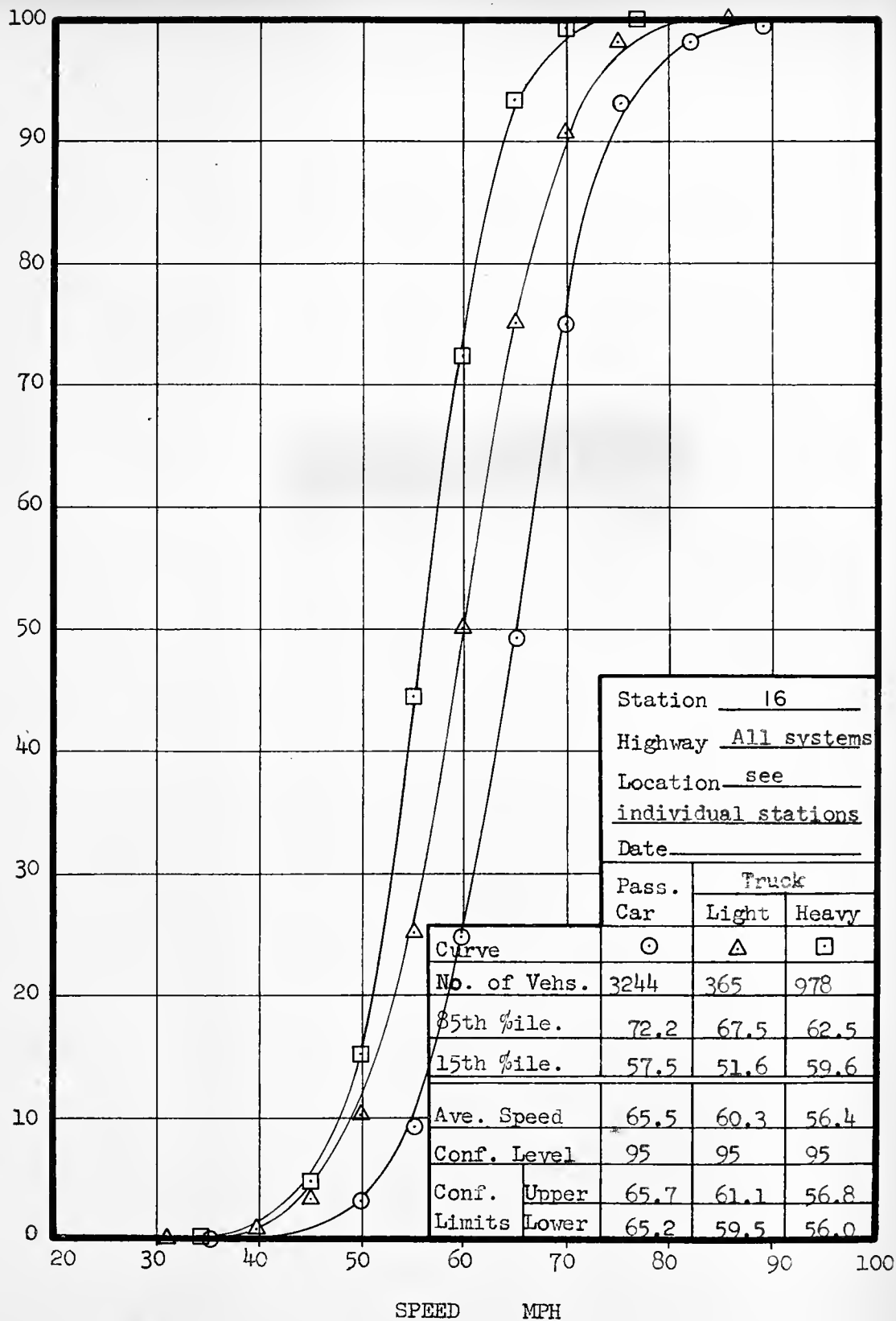
Location see  
individual stations

Date \_\_\_\_\_

Pass. Car	Truck		
	Light	Heavy	
Curve	○	△	□



PERCENTILE











5

2

14

A



14

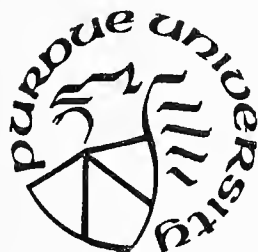
52

22





LIBRARIES



LIBRARIES



LIBRARIES



LIBRARIES



LIBRARIES



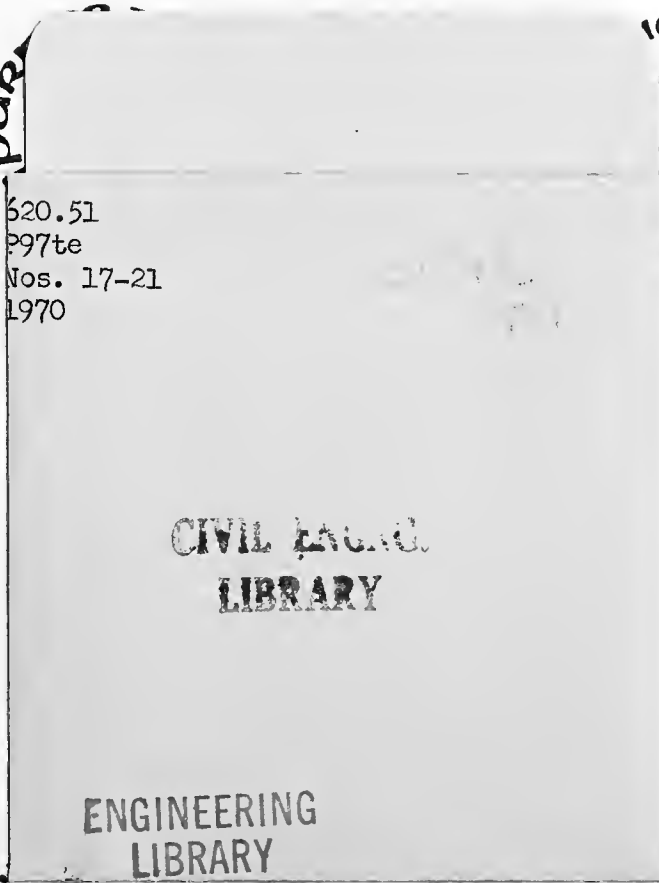
LIBRARIES



LIBRARIES



LIBRARIES



620.51  
p97te  
Nos. 17-21  
1970

CIVIL ENGINEERING  
LIBRARY

ENGINEERING  
LIBRARY

